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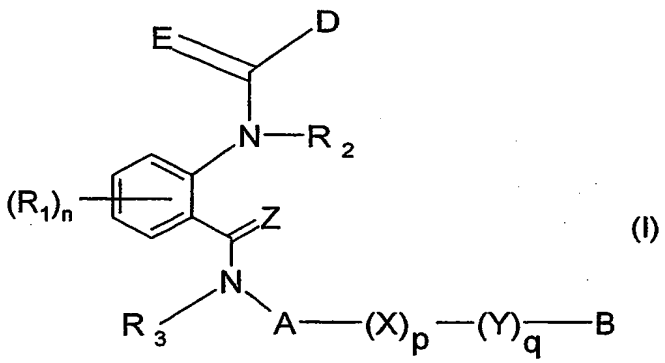
(54) Title: NOVEL INSECTICIDES



(I)

(57) Abstract: Compounds of formula (I) wherein the substituents are as defined in claim 1, and the agrochemically acceptable salts and all stereoisomers and tautomeric forms of the compounds of formula I can be used as agrochemical active ingredients and can be prepared in a manner known per se.

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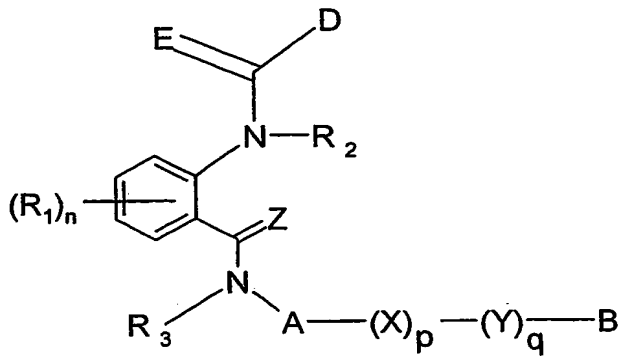
152.

Abstract:

Compounds of formula I



(I),

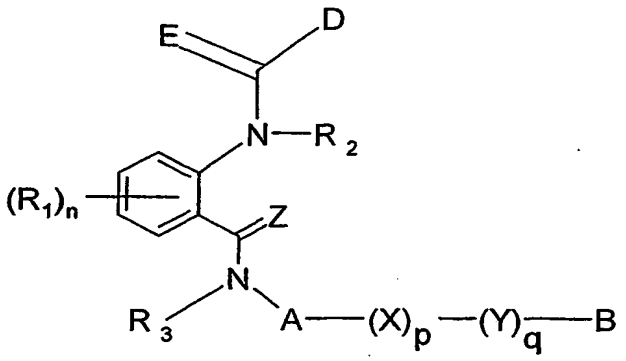
wherein the substituents are as defined in claim 1, and the agrochemically acceptable salts and all stereoisomers and tautomeric forms of the compounds of formula I can be used as agrochemical active ingredients and can be prepared in a manner known per se.

Novel Insecticides

The present invention relates to novel anthranilamide derivatives, to processes for their preparation, to compositions comprising those compounds, and to their use for controlling insects or representatives of the order Acarina.

Anthranilamide derivatives with insecticidal properties are known and described, for example, in WO 01/70671, WO 03/016284, WO 03/015518, WO 03/024222 and WO 04/033468. There have now been found novel anthranilamide derivatives with pesticidal properties, especially for the control of insects and members of the order *Acarina*.

The present invention accordingly relates to compounds of formula I



(I),

wherein

each of E and Z, which may be the same or different, represents oxygen or sulfur;

A is C_1-C_6alkylene, C_2-C_6alkenylene, C_2-C_6alkynylene, or a bivalent three- to ten-membered monocyclic or fused bicyclic ring system which can be partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms;

and it being possible for the three- to ten-membered ring system itself and also for the C_1-C_6alkylene, C_2-C_6alkenylene and C_2-C_6alkynylene groups to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-

C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl, or by

a three- to ten-membered monocyclic or fused bicyclic ring system which can be aromatic, partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms, and it being possible for the three- to ten-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl or phenyl, it being possible for the phenyl group in turn to be substituted by hydroxy, C_1-C_6alkyl, C_1-C_6haloalkyl, C_1-C_6alkylthio, C_1-C_6haloalkylthio, C_3-C_6alkenylthio, C_3-C_6haloalkenylthio, C_3-C_6alkynylthio, C_1-C_3alkoxy-C_1-C_3alkylthio, C_2-C_4alkylcarbonyl-C_1-C_3alkylthio, C_2-C_4alkoxycarbonyl-C_1-C_3alkylthio, cyano-C_1-C_3alkylthio, C_1-C_6alkylsulfinyl, C_1-C_6haloalkylsulfinyl, C_1-C_6alkylsulfonyl, C_1-C_6haloalkylsulfonyl, aminosulfonyl, C_1-C_2alkylaminosulfonyl, N,N-di(C_1-C_2alkyl)aminosulfonyl, di(C_1-C_4alkyl)amino, halogen, cyano or nitro; and substituents at nitrogen atoms in the ring systems being other than halogen;

X is oxygen, NH or C_1-C_4alkyl-N;

Y is C_1-C_6alkylene, C_2-C_6alkenylene, C_2-C_6alkynylene, or a bivalent three- to ten-membered monocyclic or fused bicyclic ring system which can be partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms;

and it being possible for the three- to ten-membered ring system itself and also for the C_1-C_6alkylene, C_2-C_6alkenylene and C_2-C_6alkynylene groups to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-

C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl, or by a three- to ten-membered monocyclic or fused bicyclic ring system which can be aromatic, partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms, and it being possible for the three- to ten-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl or phenyl, it being possible for the phenyl group in turn to be substituted by hydroxy, C_1-C_6alkyl, C_1-C_6haloalkyl, C_1-C_6alkylthio, C_1-C_6haloalkylthio, C_3-C_6alkenylthio, C_3-C_6haloalkenylthio, C_3-C_6alkynylthio, C_1-C_3alkoxy-C_1-C_3alkylthio, C_2-C_4alkylcarbonyl-C_1-C_3alkylthio, C_2-C_4alkoxycarbonyl-C_1-C_3-alkylthio, cyano-C_1-C_3alkylthio, C_1-C_6alkylsulfinyl, C_1-C_6haloalkylsulfinyl, C_1-C_6alkylsulfonyl, C_1-C_6haloalkylsulfonyl, aminosulfonyl, C_1-C_2alkylaminosulfonyl, N,N-di(C_1-C_2alkyl)amino-sulfonyl, di(C_1-C_4alkyl)amino, halogen, cyano or nitro; and substituents at nitrogen atoms in the ring systems being other than halogen;

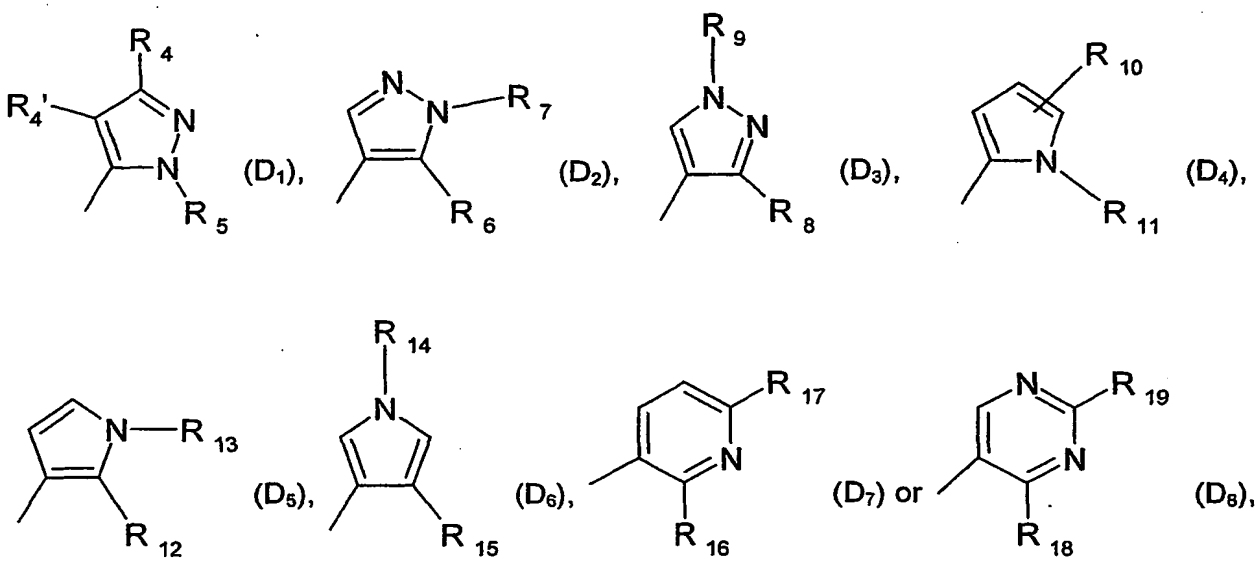
p is 0 or 1;

q is 0 or 1;

B is a three- to four-membered ring system which is fully or partially saturated and can contain a hetero atom selected from the group consisting of nitrogen, oxygen and sulfur, and it being possible for the three- to four-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-

C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl, or by a three- to ten-membered monocyclic or fused bicyclic ring system which can be aromatic, partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms, and it being possible for the three- to ten-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl or phenyl, it being possible for the phenyl group in turn to be substituted by hydroxy, C_1-C_6alkyl, C_1-C_6haloalkyl,C_1-C_6alkylthio, C_1-C_6haloalkylthio, C_3-C_6alkenylthio, C_3-C_6haloalkenylthio, C_3-C_6alkynylthio, C_1-C_3alkoxy-C_1-C_3alkylthio, C_2-C_4alkylcarbonyl-C_1-C_3alkylthio, C_2-C_4alkoxycarbonyl-C_1-C_3alkylthio, cyano-C_1-C_3alkylthio, C_1-C_6alkylsulfinyl, C_1-C_6haloalkylsulfinyl, C_1-C_6alkylsulfonyl, C_1-C_6haloalkylsulfonyl, aminosulfonyl, C_1-C_2alkylaminosulfonyl, N,N-di(C_1-C_2alkyl)aminosulfonyl, di(C_1-C_4alkyl)amino, halogen, cyano or nitro; and substituents at nitrogen atoms in the ring systems being other than halogen;
each R_1 independently is halogen, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4haloalkylsulfinyl, C_1-C_4haloalkylsulfonyl, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl, phenyl, benzyl or phenoxy, or phenyl, benzyl or phenoxy mono-, di- or trisubstituted by halogen, cyano, nitro, halogen, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-

C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl;
or each R_1 independently is amino, formyl, C_2-C_6cyanoalkenyl, C_2-C_6alkylcarbonylamino, phenylcarbonylamino which can be mono-, di- or trisubstituted by halogen, cyano, nitro, halogen, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl; or each R_1 independently is 2-,3- or 4-pyridylcarbonylamino which can be mono-, di- or trisubstituted by halogen, cyano, nitro, halogen, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl; or each R_1 independently is C_2-C_6alkoxycarbonylamino, C_2-C_6alkylaminocarbonylamino, C_3-C_6dialkylaminocarbonylamino, C_2-C_6haloalkylcarbonyl or is a group $R_xON=C(R_y)$-, wherein R_x and R_y independently are hydrogen or C_1-C_6alkyl;
n is 0, 1, 2, 3 or 4;
each of R_2 and R_3, which may be the same or different, represents hydrogen, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl or C_3-C_8cycloalkyl; or C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl or C_3-C_8cycloalkyl substituted by one or more substituents selected from halogen nitro, cyano, hydroxy, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino and C_1-C_6alkyl-C_3-C_6cycloalkylamino;
D is phenyl, 2-pyridyl, 3-pyridyl or 4-pyridyl; or phenyl, 2-pyridyl, 3-pyridyl or 4-pyridyl mono-, di- or trisubstituted by C_1-C_6alkyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, halogen, cyano, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4haloalkylsulfinyl or C_1-C_4haloalkylsulfonyl;
or D is a group



R_4, R_4', R_{10}, R_{17}, and R_{19} independently from each other, are hydrogen, C_1-C_6alkyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, halogen, cyano, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_2-C_4alkoxycarbonyl, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4haloalkylsulfinyl or C_1-C_4haloalkylsulfonyl;

R_5, R_6, R_8, R_{11}, R_{12}, R_{15}, R_{16} and R_{18} independently from each other, are C_1-C_6alkyl or C_1-C_6alkyl mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_4alkoxy, C_2-C_4alkoxycarbonyl, C_1-C_4alkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino or C_3-C_6cycloalkylamino; or are phenyl, 2-pyridyl, 3-pyridyl, 4-pyridyl; or are phenyl, 2-pyridyl, 3-pyridyl or 4-pyridyl mono-, di- or trisubstituted by C_1-C_6alkyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, halogen, cyano, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4haloalkylsulfinyl or C_1-C_4haloalkylsulfonyl;

R_7, R_9, R_{13} and R_{14} independently from each other, are hydrogen, C_1-C_6alkyl, C_1-C_6haloalkyl, C_2-C_6alkenyl, C_2-C_6haloalkenyl, C_3-C_6alkenyl or C_3-C_6haloalkenyl and agronomically acceptable salts/isomers/enantiomers/tautomers/N-oxides of those compounds, with the exception of the compound 2-(3-chloro-pyridin-2-yl)-5-trifluoromethyl-2H-pyrazole-3-carboxylic acid [2-methyl-6-(oxiranylmethyl-carbamoyl)-phenyl]-amide.

Compounds I which have at least one basic centre can form, for example, acid addition salts, for example with strong inorganic acids such as mineral acids, for example perchloric acid, sulfuric acid, nitric acid, nitrose acid, a phosphorus acid or a hydrohalic acid, with strong organic carboxylic acids, such as C_1-C_4alkanecarboxylic acids which are unsubstitu-

ted or substituted, for example by halogen, for example acetic acid, such as saturated or unsaturated dicarboxylic acids, for example oxalic acid, malonic acid, succinic acid, maleic acid, fumaric acid or phthalic acid, such as hydroxycarboxylic acids, for example ascorbic acid, lactic acid, malic acid, tartaric acid or citric acid, or such as benzoic acid, or with organic sulfonic acids, such as C_1-C_4alkane- or arylsulfonic acids which are unsubstituted or substituted, for example by halogen, for example methane- or p-toluenesulfonic acid. Compounds I which have at least one acidic group can form, for example, salts with bases, for example mineral salts such as alkali metal or alkaline earth metal salts, for example sodium, potassium or magnesium salts, or salts with ammonia or an organic amine, such as morpholine, piperidine, pyrrolidine, a mono-, di- or tri-lower-alkylamine, for example ethyl-, diethyl-, triethyl- or dimethylpropylamine, or a mono-, di- or trihydroxy-lower-alkylamine, for example mono-, di- or triethanolamine. Where appropriate, the corresponding internal salts can furthermore be formed. Preferred within the scope of the invention are agrochemically advantageous salts; however, the invention also encompasses salts which have disadvantage for agrochemical use, for example salts which are toxic to bees or fish, and which are employed, for example, for the isolation or purification of free compounds I or agrochemically utilizable salts thereof. Owing to the close relationship between the compounds I in free form and in the form of their salts, for the purposes of the invention the free compounds I or their salts hereinabove and hereinbelow are respectively to be understood as including, where appropriate, the corresponding salts or the free compounds I. The same applies analogously to tautomers of compounds I and salts thereof. In general, the free form is preferred in each case.

The alkyl groups occurring in the definitions of the substituents can be straight-chain or branched and are, for example, methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, tert-butyl, pentyl, hexyl, heptyl and octyl and their branched isomers. Alkoxy, alkenyl and alkynyl radicals are derived from the alkyl radicals mentioned. The alkenyl and alkynyl groups can be mono- or polyunsaturated.

Halogen is generally fluorine, chlorine, bromine or iodine. This also applies, correspondingly, to halogen in combination with other meanings, such as haloalkyl or halophenyl.

Haloalkyl groups preferably have a chain length of from 1 to 6 carbon atoms. Haloalkyl is, for example, fluoromethyl, difluoromethyl, trifluoromethyl, chloromethyl, dichloromethyl,

trichloromethyl, 2,2,2-trifluoroethyl, 2-fluoroethyl, 2-chloroethyl, pentafluoroethyl, 1,1-difluoro-2,2,2-trichloroethyl, 2,2,3,3-tetrafluoroethyl and 2,2,2-trichloroethyl; preferably trichloromethyl, difluorochloromethyl, difluoromethyl, trifluoromethyl and dichlorofluoromethyl.

Suitable haloalkenyl groups are alkenyl groups which are mono- or polysubstituted by halogen, halogen being fluorine, chlorine, bromine and iodine and in particular fluorine and chlorine, for example 2,2-difluoro-1-methylvinyl, 3-fluoropropenyl, 3-chloropropenyl, 3-bromopropenyl, 2,3,3-trifluoropropenyl, 2,3,3-trichloropropenyl and 4,4,4-trifluorobut-2-en-1-yl. Among the C_3-C_{20}alkenyl groups which are mono-, di- or trisubstituted by halogen, preference is given to those having a chain length of from 3 to 5 carbon atoms.

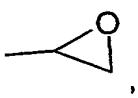
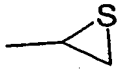
Suitable haloalkynyl groups are, for example, alkynyl groups which are mono- or polysubstituted by halogen, halogen being bromine, iodine and in particular fluorine and chlorine, for example 3-fluoropropynyl, 3-chloropropynyl, 3-bromopropynyl, 3,3,3-trifluoropropynyl and 4,4,4-trifluorobut-2-yn-1-yl. Among the alkynyl groups which are mono- or polysubstituted by halogen, preference is given to those having a chain length of from 3 to 5 carbon atoms.

Alkoxy groups preferably have a preferred chain length of from 1 to 6 carbon atoms. Alkoxy is, for example, methoxy, ethoxy, propoxy, i-propoxy, n-butoxy, isobutoxy, sec-butoxy and tert-butoxy and also the isomeric pentyloxy and hexyloxy radicals; preferably methoxy and ethoxy.

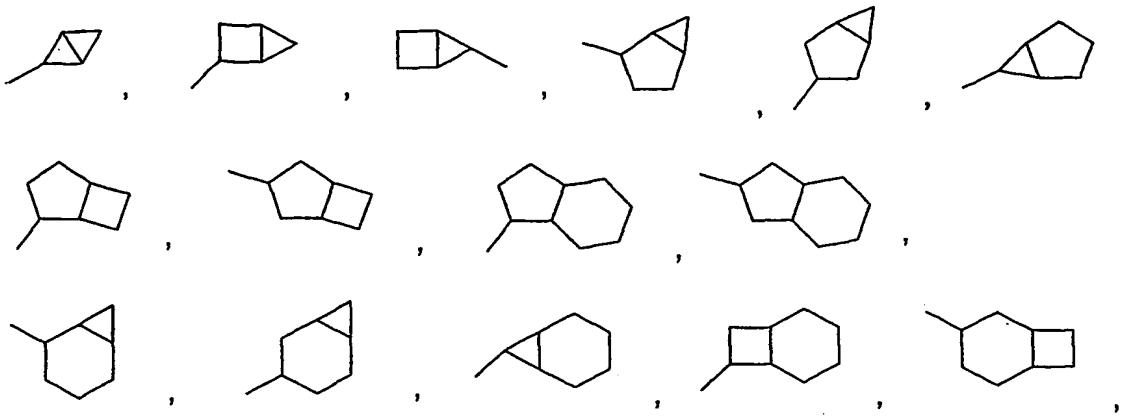
Alkoxycarbonyl is, for example, methoxycarbonyl (C_2-alkoxycarbonyl), ethoxycarbonyl (C_3-alkoxycarbonyl), propoxycarbonyl, isopropoxycarbonyl, n-butoxycarbonyl, isobutoxycarbonyl, sec-butoxycarbonyl or tert-butoxycarbonyl; preferably methoxycarbonyl or ethoxycarbonyl. Haloalkoxy groups preferably have a chain length of from 1 to 6 carbon atoms. Haloalkoxy is, for example, fluoromethoxy, difluoromethoxy, trifluoromethoxy, 2,2,2-trifluoroethoxy, 1,1,2,2-tetrafluoroethoxy, 2-fluoroethoxy, 2-chloroethoxy, 2,2-difluoroethoxy and 2,2,2-trichloroethoxy; preferably difluoromethoxy, 2-chloroethoxy and trifluoromethoxy. Alkylthio groups preferably have a chain length of from 1 to 6 carbon atoms. Alkylthio is, for example, methylthio, ethylthio, propylthio, isopropylthio, n-butylthio, isobutylthio, sec-butylthio or tert-butylthio, preferably methylthio and ethylthio. Alkylsulfinyl is, for example, methylsulfinyl,

ethylsulfinyl, propylsulfinyl, isopropylsulfinyl, n-butylsulfinyl, isobutylsulfinyl, sec-butylsulfinyl, tert-butylsulfinyl; preferably methylsulfinyl and ethylsulfinyl.

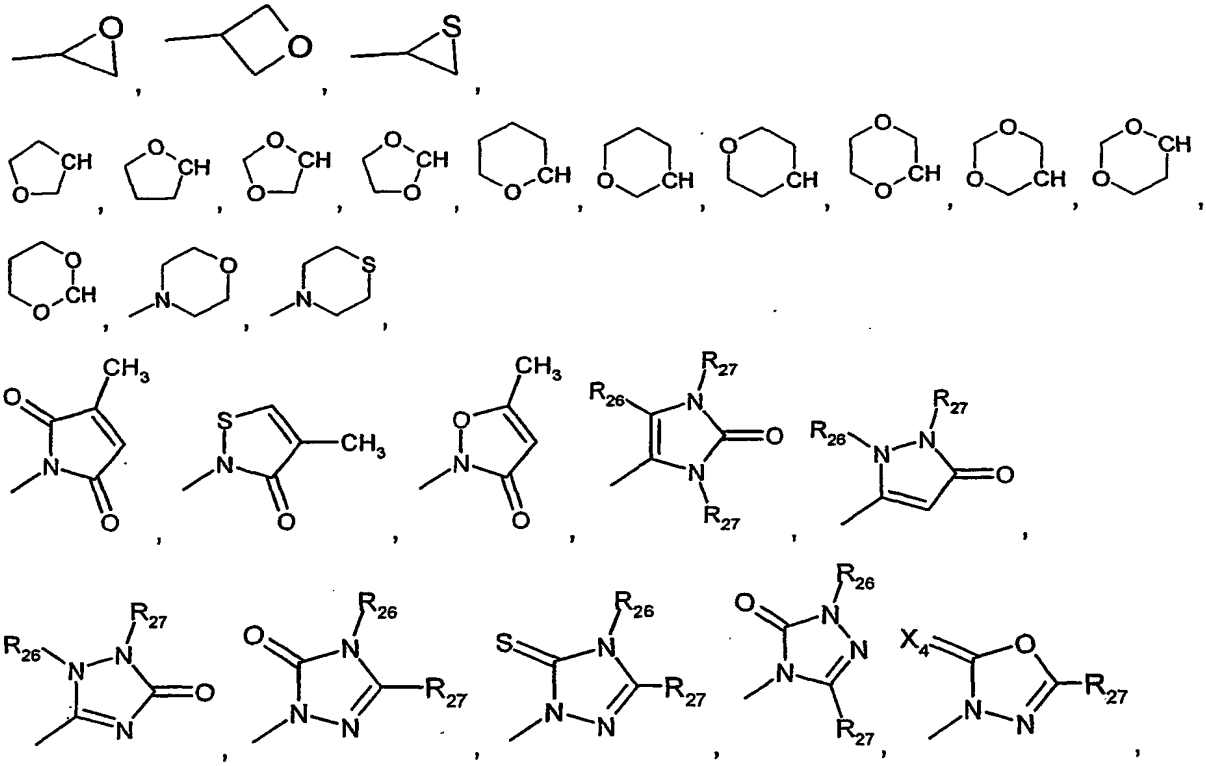
Alkylsulfonyl is, for example, methylsulfonyl, ethylsulfonyl, propylsulfonyl, isopropylsulfonyl, n-butylsulfonyl, isobutylsulfonyl, sec-butylsulfonyl or tert-butylsulfonyl; preferably methylsulfonyl or ethylsulfonyl. Alkoxyalkoxy groups preferably have a chain length of from 1 to 8 carbon atoms. Examples of alkoxyalkoxy groups are: methoxymethoxy, methoxyethoxy, methoxypropoxy, ethoxymethoxy, ethoxyethoxy, propoxymethoxy or butoxybutoxy. Alkylamino is, for example, methylamino, ethylamino, n-propylamino, isopropylamino or the isomeric butylamines. Dialkylamino is, for example, dimethylamino, methylethylamino, diethylamino, n-propylmethylamino, dibutylamino and diisopropylamino. Preference is given to alkylamino groups having a chain length of from 1 to 4 carbon atoms. Alkylaminocarbonyl is, for example, methylaminocarbonyl (C_2-alkylaminocarbonyl) or ethylaminocarbonyl (C_3-aminocarbonyl). Alkoxyalkyl groups preferably have a chain length of 1 to 6 carbon atoms. Alkoxyalkyl is, for example, methoxymethyl, methoxyethyl, ethoxymethyl, ethoxyethyl, n-propoxymethyl, n-propoxyethyl, isopropoxymethyl or isopropoxyethyl. Alkylthioalkyl groups preferably have from 1 to 8 carbon atoms. Alkylthioalkyl is, for example, methylthiomethyl, methylthioethyl, ethylthiomethyl, ethylthioethyl, n-propylthiomethyl, n-propylthioethyl, isopropylthiomethyl, isopropylthioethyl, butylthiomethyl, butylthioethyl or butylthiobutyl. The cycloalkyl groups preferably have from 3 to 6 ring carbon atoms, for example cyclopropyl, cyclobutyl, cyclopentyl and cyclohexyl. Phenyl, also as part of a substituent such as phenoxy, benzyl, benzyloxy, benzoyl, phenylthio, phenylalkyl, phenoxyalkyl, may be substituted. In this case, the substituents can be in ortho, meta and/or para position. The preferred substituent positions are the ortho and para positions to the ring attachment point.

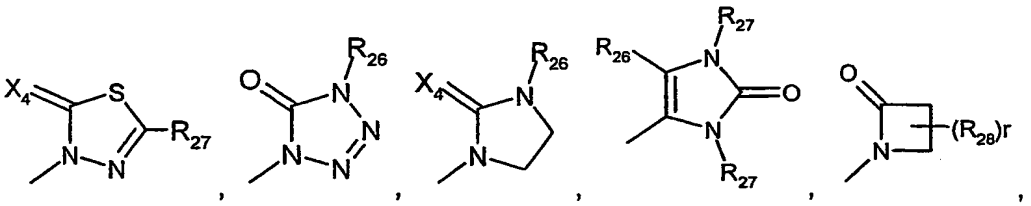
Examples for B as a optionally substituted three- to four-membered ring system which is fully or partially saturated and can contain a hetero atom selected from the group consisting of nitrogen, oxygen and sulfur, are cyclopropyl, methyl-cyclopropyl, cyclopropenyl, cyclobutyl, cyclobutenyl,  ,  or  .

According to the present invention, a three- to ten-membered, monocyclic or fused bicyclic ring system which may be partially saturated or fully saturated is, depending of the number of ring members, for example, selected from the group consisting of

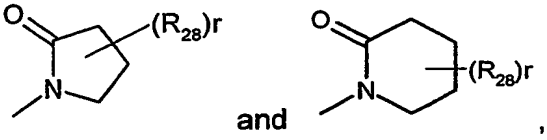


cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, where said cycloalkylgroups for their part may be preferably unsubstituted or substituted by C_1-C_6alkyl or halogen, or is

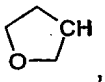
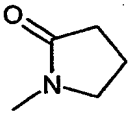




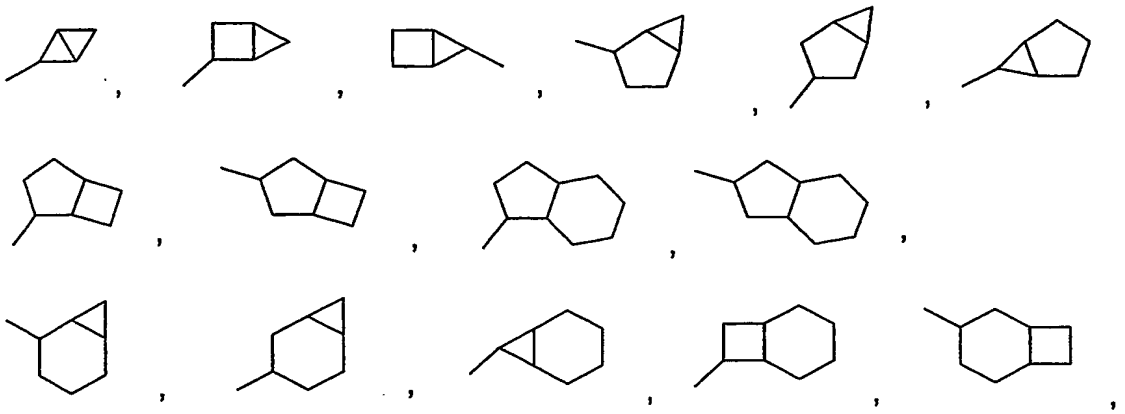
and



wherein each R_{26} is methyl, each R_{27} and each R_{28} are independently hydrogen, C_1-C_3alkyl, C_1-C_3alkoxy, C_1-C_3alkylthio or trifluoromethyl, X_4 is oxygen or sulfur and r = 1, 2, 3 or 4.

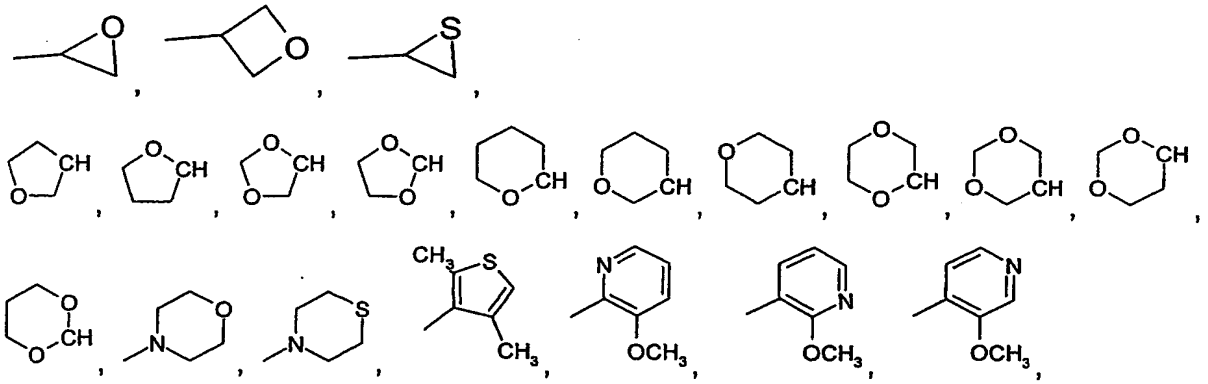
Where no free valency is indicated in those definitions, for example as in  , the linkage site is located at the carbon atom labelled "CH" or in a case such as, for example,  at the bonding site indicated at the bottom left. The second valence for the bivalent ring system of substituent A or Y can be located at any suitable position of the ring.

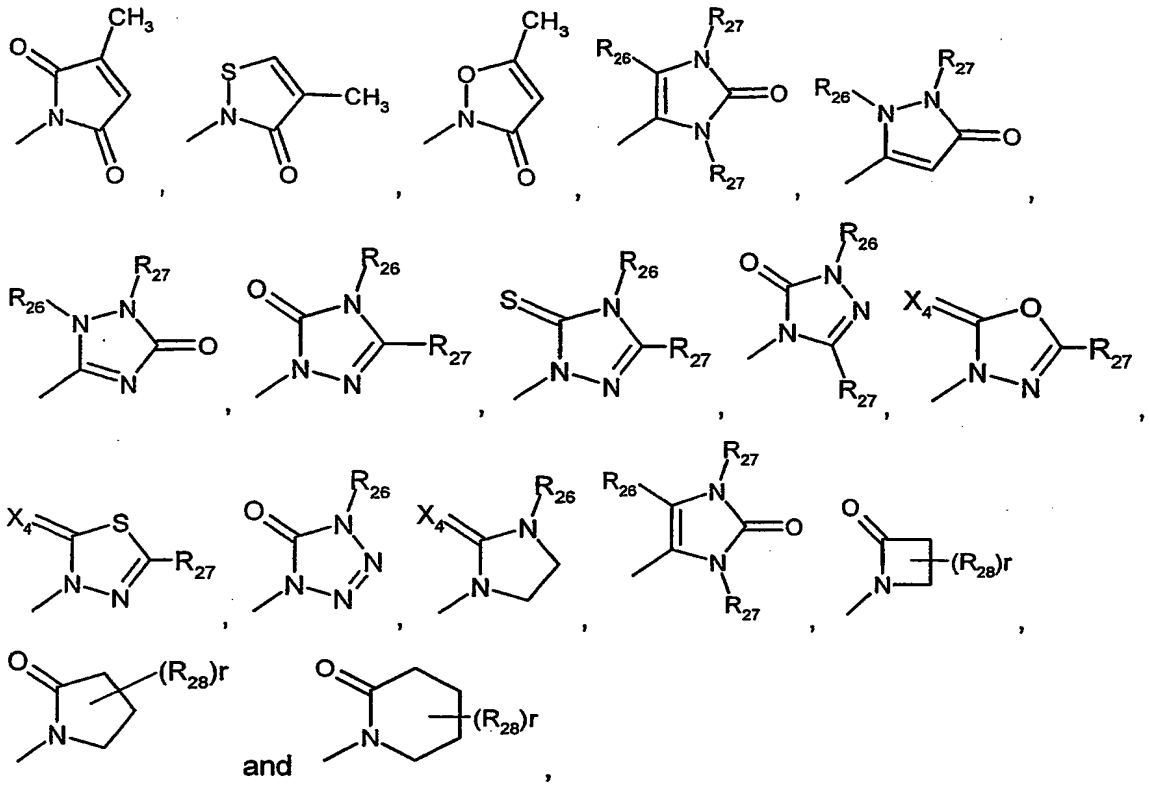
According to the present invention, a three- to ten-membered monocyclic or fused bicyclic ring system which may be aromatic, partially saturated or fully saturated is, depending of the number of ring members, for example, selected from the group consisting of



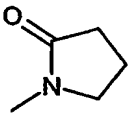
cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, where said cycloalkylgroups for their part may be preferably unsubstituted or substituted by C_1-C_6alkyl or halogen, or is phenyl, benzyl, naphthyl or the following heterocyclic groups: pyrrolyl; pyridyl; pyrazolyl; pyrimidyl; pyrazinyl; imidazolyl; thiadiazolyl; quinazolinyl; furyl; oxadiazolyl; indolizinyl; pyranyl; isobenzofuranyl; thienyl; naphthyridinyl; (1-methyl-1H-pyrazol-3-yl)-; (1-ethyl-1H-pyrazol-3-

yl)-; (1-propyl-1H-pyrazol-3-yl)-; (1H-pyrazol-3-yl)-; (1,5-dimethyl-1H-pyrazol-3-yl)-; (4-chloro-1-methyl-1H-pyrazol-3-yl)-; (1H-pyrazol-1-yl)-; (3-methyl-1H-pyrazol-1-yl)-; (3,5-dimethyl-1H-pyrazol-1-yl)-; (3-isoxazolyl)-; (5-methyl-3-isoxazolyl)-; (3-methyl-5-isoxazolyl)-; (5-isoxazolyl)-; (1H-pyrrol-2-yl)-; (1-methyl-1H-pyrrol-2-yl)-; (1H-pyrrol-1-yl)-; (1-methyl-1H-pyrrol-3-yl)-; (2-furanyl)-; (5-methyl-2-furanyl)-; (3-furanyl)-; (5-methyl-2-thienyl)-; (2-thienyl)-; (3-thienyl)-; (1-methyl-1H-imidazol-2-yl)-; (1H-imidazol-2-yl)-; (1-methyl-1H- imidazol-4-yl)-; (1-methyl-1H-imidazol-5-yl)-; (4-methyl-2-oxazolyl)-; (5-methyl-2-oxazolyl)-; (2-oxazolyl)-; (2-methyl-5-oxazolyl)-; (2-methyl-4-oxazolyl)-; (4-methyl-2-thiazolyl)-; (5-methyl-2-thiazolyl)-; (2-thiazolyl)-; (2-methyl-5-thiazolyl)-; (2-methyl-4-thiazolyl)-; (3-methyl-4-isothiazolyl)-; (3-methyl-5-isothiazolyl)-; (5-methyl-3-isothiazolyl)-; (1-methyl-1H-1,2,3-triazol-4-yl)-; (2-methyl-2H-1,2,3-triazol-4-yl)-; (4-methyl-2H-1,2,3-triazol-2-yl)-; (1-methyl-1H-1,2,4-triazol-3-yl)-; (1,5-dimethyl-1H-1,2,4-triazol-3-yl)-; (3-methyl-1H-1,2,4-triazol-1-yl)-; (5-methyl-1H-1,2,4-triazol-1-yl)-; (4,5-dimethyl-4H-1,2,4-triazol-3-yl)-; (4-methyl-4H-1,2,4-triazol-3-yl)-; (4H-1,2,4-triazol-4-yl)-; (5-methyl-1,2,3-oxadiazol-4-yl)-; (1,2,3-oxadiazol-4-yl)-; (3-methyl-1,2,4-oxadiazol-5-yl)-; (5-methyl-1,2,4-oxadiazol-3-yl)-; (4-methyl-3-furazanyl)-; (3-furazanyl)-; (5-methyl-1,2,4-oxadiazol-2-yl)-; (5-methyl-1,2,3-thiadiazol-4-yl)-; (1,2,3-thiadiazol-4-yl)-; (3-methyl-1,2,4-thiadiazol-5-yl)-; (5-methyl-1,2,4-thiadiazol-3-yl)-; (4-methyl-1,2,5-thiadiazol-3-yl)-; (5-methyl-1,3,4-thiadiazol-2-yl)-; (1-methyl-1H-tetrazol-5-yl)-; (1H-tetrazol-5-yl)-; (5-methyl-1H-tetrazol-1-yl)-; (2-methyl-2H-tetrazol-5-yl)-; (2-ethyl-2H-tetrazol-5-yl)-; (5-methyl-2H-tetrazol-2-yl)-; (2H-tetrazol-2-yl)-; (2-pyridyl)-; (6-methyl-2-pyridyl)-; (4-pyridyl)-; (3-pyridyl)-; (6-methyl-3-pyridazinyl)-; (5-methyl-3-pyridazinyl)-; (3-pyridazinyl)-; (4,6-dimethyl-2-pyrimidinyl)-; (4-methyl-2-pyrimidinyl)-; (2-pyrimidinyl)-; (2-methyl-4-pyrimidinyl)-; (2-chloro-4-pyrimidinyl)-; (2,6-dimethyl-4-pyrimidinyl)-; (4-pyrimidinyl)-; (2-methyl-5-pyrimidinyl)-; (6-methyl-2-pyrazinyl)-; (2-pyrazinyl)-; (4,6-dimethyl-1,3,5-triazin-2-yl)-; (4,6-dichloro-1,3,5-triazin-2-yl)-; (1,3,5-triazin-2-yl)-; (4-methyl-1,3,5-triazin-2-yl)-; (3-methyl-1,2,4-triazin-5-yl)-; (3-methyl-1,2,4-triazin-6-yl)-;





wherein each R_{26} is methyl, each R_{27} and each R_{28} are independently hydrogen, C_1-C_3alkyl, C_1-C_3alkoxy, C_1-C_3alkylthio or trifluoromethyl, X_4 is oxygen or sulfur and r = 1, 2, 3 or 4.

Where no free valency is indicated in those definitions, for example as in  , the linkage site is located at the carbon atom labelled "CH" or in a case such as, for example,  at the bonding site indicated at the bottom left.

Compounds of formula I are preferred, wherein R_4' is hydrogen and each R_1 independently is halogen, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4haloalkylsulfinyl, C_1-C_4haloalkylsulfonyl, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl, phenyl, benzyl or phenoxy, or phenyl, benzyl or phenoxy mono-, di- or

trisubstituted by halogen, cyano, nitro, halogen, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl.

In especially preferred compounds of formula I,
B is a three- to four-membered ring system which is fully or partially saturated, and it being possible for the three- to four-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl, or by a three- to ten-membered monocyclic or fused bicyclic ring system which can be aromatic, partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms, and it being possible for the three- to ten-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl or phenyl, it being possible for the phenyl group in turn to be substituted by hydroxy, C_1-C_6alkyl, C_1-C_6haloalkyl,C_1-C_6alkylthio, C_1-C_6haloalkylthio, C_3-C_6alkenylthio, C_3-C_6haloalkenylthio, C_3-C_6alkynylthio, C_1-C_3alkoxy-C_1-C_3alkylthio, C_2-C_4alkylcarbonyl-C_1-C_3alkylthio, C_2-C_4alkoxycarbonyl-C_1-C_3alkylthio, cyano-C_1-

C_3alkylthio, C_1-C_6alkylsulfinyl, C_1-C_6haloalkylsulfinyl, C_1-C_6alkylsulfonyl, C_1-C_6haloalkylsulfonyl, aminosulfonyl, C_1-C_2alkylaminosulfonyl, N,N-di(C_1-C_2alkyl)aminosulfonyl, di(C_1-C_4alkyl)amino, halogen, cyano or nitro; and substituents at nitrogen atoms in the ring systems being other than halogen.

Preference is given to subgroups of compounds of formula I wherein
a) p and/or q is 0;
b) E and/or Z is oxygen; and/or
c) R_2 and/or R_3 is hydrogen.

X is preferably oxygen, NH; NMe or NEt.
Y is preferably C_1-C_4alkylene, C_2-C_6alkenylene or C_3-C_6alkinylene or, C_1-C_4alkylene, C_2-C_6alkenylene or C_3-C_6alkinylene substituted by halogen, C_3-C_6cycloalkyl, C_1-C_4alkylsulfonyl or C_1-C_4alkoxy.

Special mention should be made of compounds of formula I wherein R_1 is selected from C_1-C_4alkyl, halogen, C_1-C_5haloalkyl, nitro, C_1-C_4alkoxy, C_1-C_4-haloalkoxy, C_1-C_4alkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4haloalkylthio, C_1-C_4haloalkylsulfinyl and C_1-C_4haloalkylsulfonyl, in particular from halogen and C_1-C_6alkyl, preferably selected from methyl and halogen, most preferably selected from methyl and chloro, and n is 1 or 2, preferably 2. Preferred position of R_1 is meta to the group –C(Z)-N(R_3)-A-(X)p-(Y)q-B.

An outstanding group of compounds of formula I comprises those compounds wherein A is C_1-C_6alkylene which may be substituted by C_3-C_6cycloalkyl, C_2-C_6alkenyl, cyano, C_1-C_4alkylthio, C_1-C_4alkylsulfonyl, C_1-C_4alkoxy, halogen or C_1-C_6haloalkyl; or A is C_3-C_6cycloalkylene. Preferably A is C_1-C_6alkylene or cyclopropylene, most preferably methylene or cyclopropylene.

In further preferred compounds of formula I, B is cyclopropyl or cyclobutyl, preferably cyclopropyl.

Special emphasis should also be given to compounds of formula I wherein D is a group D_1, wherein R_5 is 2-pyridyl which can be substituted by halogen, preferably which is monosubstituted by chloro at the 3-position of the pyridine ring, R_4' is hydrogen or halogen,

preferably hydrogen and R_4 is halogen preferably chloro and bromo, C_1-C_6haloalkyl preferably trifluoromethyl, C_1-C_4haloalkoxy, preferably 2,2,2-trifluoroethoxy.

Preference is also given to compounds of formula I wherein B is cyclopropyl or cyclobutyl which may be mono- di-, or trisubstituted by halogen, C_1-C_4alkyl, hydroxy, cyano, C_1-C_4alkoxy or C_1-C_4alkylthio; or B is $CH(CH_2O)$, $CH(CHMeO)$, $CH\text{-}(CMe_2O)$, $CH(CH_2S)$, $CH(CH_2OCH_2)$, $CH(CHMeOCH_2)$, $CH(CMe_2OCH_2)$, $CH(CH_2S\text{-}(O)_2CH_2)$, $CH(CHMeS(O)_2CH_2)$, $CH(CMe_2S(O)_2CH_2)$, $C(Me)\text{-}(CH_2O)$, $C(Me)(CHMeO)$, $C(Me)\text{-}(CMe_2O)$, $C(Me)\text{-}(CH_2S)$, $C(Me)\text{-}(CH_2OCH_2)$, $C(Me)(CHMeOCH_2)$, $C(Me)\text{-}(CMe_2OCH_2)$, $C(Me)\text{-}(CH_2S(O)_2CH_2)$, $C(Me)\text{-}(CHMe\text{-}S(O)_2CH_2)$ or $C(Me)\text{-}(CMe_2\text{-}S(O)_2CH_2)$. In especially preferred compounds of formula I B is cyclopropyl or cyclobutyl which may be substituted by halogen or methyl, in particular by chloro, bromo and methyl; preferably B is cyclopropyl.

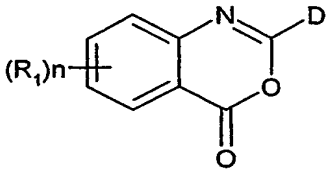
In an outstanding group of compounds of formula I the substituents have the following meanings:
n is 2 and one R_1 is C_1-C_4alkyl, preferably methyl, or halogen, preferably chloro, the other R_1 is halogen preferably chloro or bromo; wherein most preferably one R_1 with the meaning C_1-C_4alkyl occupies the ortho position with regard to the group $-N(R_2)\text{-}C(E)\text{-}D$.
D is a group D_1, wherein R_4' is hydrogen, R_4 is halogen preferably chloro and bromo, C_1-C_6haloalkyl preferably trifluoromethyl, C_1-C_4haloalkoxy, preferably 2,2,2-trtifluoroethoxy and R_5 is 2-pyridyl monosubstituted by halogen, preferably by 3-chloro;
R_2 and R_3 are hydrogen;
A is C_1-C_6alkylene or a fully saturated bivalent 3-to 6-membered moncyclic ring system, preferably methylene, cyclopropylene or cyclobutylene, most preferably a fully saturated bivalent 3-to 6-membered moncyclic ring system, in particular cyclopropylene or cyclobutylene;
p and q are 0;
E and Z are oxygen;
and B is cyclopropyl or cyclobutyl, preferably cyclopropyl.

The process according to the invention for preparing compounds of formula I is carried out analogously to known processes, for example those described in WO 01/70671, WO 03/016284, WO 03/015518 and WO 04/033468.

The process for the preparation of a compound of formula I or, where appropriate, a tautomer thereof, in each case in free form or in salt form, comprises

a) for the preparation of a compound of formula I, in which R_2 is hydrogen and E and Z are oxygen, or, where appropriate, a tautomer and/or salt thereof,

reacting a compound of formula II



(II),

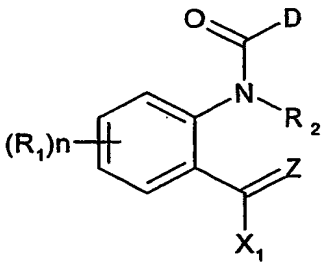
in which R_1, n, and D have the meanings given for formula I in claim 1, or, where appropriate, a tautomer and/or salt thereof with a compound of formula III

$$HN(R_3)\text{-}A\text{-}(X)_p\text{-}(Y)_q\text{-}B \qquad (III),$$

in which R_3, A, X, Y, p, q and B have the meanings given for formula I, or, where appropriate, with a tautomer and/or salt thereof or,

b) for the preparation of a compound of formula I, or, where appropriate, a tautomer and/or salt thereof,

reacting a compound of formula IV



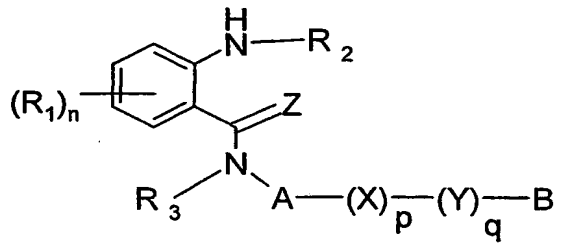
(IV),

in which R_1, R_2, n, Z and D have the meanings given for the formula I in claim 1; and X_1 is a leaving group,or, where appropriate, a tautomer and/or salt thereof with a compound of formula III

$$HN(R_3)\text{-}A\text{-}(X)_p\text{-}(Y)_q\text{-}B \qquad (III),$$

in which R_3, A, X, Y, p, q and B have the meanings given for formula I, or, where appropriate, with a tautomer and/or salt thereof or,

c) for the preparation of a compound of formula I, or, where appropriate, a tautomer and/or salt thereof,
reacting a compound of formula V



(V),

in which R_1, R_2, R_3, n, A, X, Y, Z and B have the meanings given for the formula I in claim 1, or, where appropriate, a tautomer and/or salt thereof with a compound of formula VI

$$X_2C(=O)D \qquad (VI),$$

in which D has the meaning given for formula I in claim 1; and X_2 is a leaving group, or, where appropriate, with a tautomer and/or salt thereof;
and/or converting a compound of formula I or, where appropriate, a tautomer thereof, in each case in free form or in salt form, into another compound of formula I or, where appropriate, a tautomer thereof, separating an isomer mixture, which can be obtained in accordance with the process, and isolating the desired isomer and/or converting a free compound of formula I or, where appropriate, a tautomer thereof into a salt or a salt of a compound of formula I or, where appropriate, a tautomer thereof into the free compound of formula I or, where appropriate, a tautomer thereof or into another salt.

The compounds of formula II are described in WO 04/111030. The compounds of formulae III and V are novel and especially developped for the preparation of the compounds of formula I and constitute therefore a further embodiment of the present invention. The preferences for the substituents of formula I mentioned above are also valid for the compounds of formulae III and V.

In especially preferred compounds of formula III

R_3 is hydrogen;

A is C_1-C_6alkylene which may be substituted by C_3-C_6cycloalkyl, C_2-C_6alkenyl, cyano, C_1-C_4alkylthio, C_1-C_4alkylsulfonyl, C_1-C_4alkoxy, halogen or C_1-C_6haloalkyl; or A is C_3-C_6cycloalkylene;

p and q are, independently from each other, 0 or 1;

X is oxygen, NH; NCH_3 or NC_2H_5;

Y is C_1-C_4alkylene, C_2-C_6alkenylene or C_3-C_6alkinylene or, C_1-C_4alkylene, C_2-C_6alkenylene or C_3-C_6alkinylene substituted by halogen, C_3-C_6cycloalkyl, C_1-C_4alkylsulfonyl or C_1-C_4alkoxy;

B is cyclopropyl or cyclobutyl which may be mono- di-, or trisubstituted by halogen, C_1-C_4alkyl, hydroxy, cyano, C_1-C_4alkoxy or C_1-C_4alkylthio; or B is $CH(CH_2O)$, $CH(CHMeO)$, $CH(CMe_2O)$, $CH(CH_2S)$, $CH(CH_2OCH_2)$, $CH(CHMeOCH_2)$, $CH(CMe_2OCH_2)$, $CH(CH_2S\text{-}(O)_2CH_2)$, $CH(CHMeS(O)_2CH_2)$, $CH(CMe_2S(O)_2CH_2)$, $C(Me)\text{-}(CH_2O)$, $C(Me)(CHMeO)$, $C(Me)\text{-}(CMe_2O)$, $C(Me)\text{-}(CH_2S)$, $C(Me)\text{-}(CH_2OCH_2)$, $C(Me)(CHMeOCH_2)$, $C(Me)\text{-}(CMe_2OCH_2)$, $C(Me)\text{-}(CH_2S(O)_2CH_2)$, $C(Me)\text{-}(CHMe\text{-}S(O)_2CH_2)$ or $C(Me)\text{-}(CMe_2\text{-}S(O)_2CH_2)$, preferably B is cyclopropyl or cyclobutyl which may be mono- di-, or trisubstituted by halogen, C_1-C_4alkyl, hydroxy, cyano, C_1-C_4alkoxy or C_1-C_4alkylthio.

In especially preferred compounds of formula V

R_1 is C_1-C_4alkyl, halogen, C_1-C_5haloalkyl, nitro, C_1-C_4alkoxy, C_1-C_4-haloalkoxy, C_1-C_4alkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4haloalkylthio, C_1-C_4haloalkylsulfinyl or C_1-C_4haloalkylsulfonyl;

R_2 and R_3 are hydrogen;

A is C_1-C_6alkylene which may be substituted by C_3-C_6cycloalkyl, C_2-C_6alkenyl, cyano, C_1-C_4alkylthio, C_1-C_4alkylsulfonyl, C_1-C_4alkoxy, halogen or C_1-C_6haloalkyl; or A is C_3-C_6cycloalkylene;

p and q are, independently from each other, 0 or 1;

X is oxygen, NH; NCH_3 or NC_2H_5;

Y is C_1-C_4alkylene, C_2-C_6alkenylene or C_3-C_6alkinylene or, C_1-C_4alkylene, C_2-C_6alkenylene or C_3-C_6alkinylene substituted by halogen, C_3-C_6cycloalkyl, C_1-C_4alkylsulfonyl or C_1-C_4alkoxy;

B is cyclopropyl or cyclobutyl which may be mono- di-, or trisubstituted by halogen, C_1-C_4alkyl, hydroxy, cyano, C_1-C_4alkoxy or C_1-C_4alkylthio; or B is $CH(CH_2O)$, $CH(CHMeO)$, $CH(CMe_2O)$, $CH(CH_2S)$, $CH(CH_2OCH_2)$, $CH(CHMeOCH_2)$, $CH(CMe_2OCH_2)$, $CH(CH_2S\text{-}(O)_2CH_2)$, $CH(CHMeS(O)_2CH_2)$, $CH(CMe_2S(O)_2CH_2)$, $C(Me)\text{-}(CH_2O)$, $C(Me)(CHMeO)$, $C(Me)\text{-}(CMe_2O)$,

C(Me)-(CH_2S), C(Me)-(CH_2OCH_2), C(Me)($CHMeOCH_2$), C(Me)-(CMe_2OCH_2), C(Me)-($CH_2S(O)_2CH_2$), C(Me)-($CHMe\text{-}S(O)_2CH_2$) or C(Me)-($CMe_2\text{-}S(O)_2CH_2$), preferably B is cyclopropyl or cyclobutyl which may be mono- di-, or trisubstituted by halogen, C_1-C_4alkyl, hydroxy, cyano, C_1-C_4alkoxy or C_1-C_4alkylthio.

Table B: Preferred compounds of formula III represented by the formula IIIa:

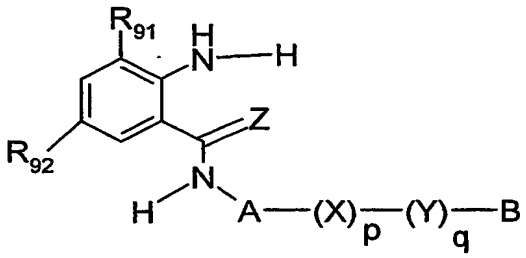
$HN(H)\text{-}A\text{-}(X)_p\text{-}(Y)_q\text{-}B$ (IIIa),

Cpd No.	A	X	Y	B
B1	CH_2	-	-	cyclopropyl
B2	CHMe	-	-	cyclopropyl
B3	$C(CH_2CH_2)$	-	-	cyclopropyl
B4	$C(CH_2CH_2)$	-	-	cyclobutyl
B5	CH_2	-	-	2,2-dichloro-cyclopropyl
B6	CH_2	-	-	1-methyl-2,2-dichloro-cyclo-propyl
B7	CH_2	-	-	2,2-dibromo-cyclopropyl
B8	CH_2	-	-	1-methyl-2,2-dibromo-cyclo-propyl
B9	CH_2	-	-	2,2,3,3-tetrafluoro-cyclobutyl
B12	CH_2	-	-	$C(SMe)\text{-}(CH_2CH_2CH_2)$
B13	CH_2	-	-	$C(S(O)Me)\text{-}(CH_2CH_2CH_2)$
B14	CH_2	-	-	$C(S(O)_2Me)\text{-}(CH_2CH_2CH_2)$
B15	CH_2	-	-	cyclobutyl

Cpd No.	A	X	Y	B
B16	CH_2	-	-	C(Me)-(CH_2OCH_2)
B17	CH_2	-	-	CH(CMe_2(CH-CH=CMe_2))
B18	CH_2	-	-	C(CH_2OCH_3)-(CH_2OCH_2)
B19	CH_2	-	-	CH(CH_2O)
B20	CHCOOMe	-	-	cyclopropyl
B21	CH_2	-	CH_2	CH(CH_2-CFCl)
B22	CH_2	-	CH_2	cyclopropyl
B23	CH_2	-	-	C(Me)-(CH_2CH_2)
B24	CH_2	-	-	CH(CH_2-CMe_2)
B25	CH_2	-	-	CH(CH_2CH_2O)
B26	CH_2	-	-	C(S(O)($NCOCF_3$)Me)-($CH_2CH_2CH_2$)
B27	CH_2	-	-	C(S(O)(NH)Me)-($CH_2CH_2CH_2$)
B28	CH_2	-	-	CH(CMe_2CMe_2)
B29	CH_2	-	-	C(SMe)-(CH_2CH_2)
B30	CH_2	-	-	C($S(O)_2$Me)-(CH_2CH_2)
B31	CH_2	-	-	C(CF_3)-(CH_2CH_2)
B32	CH_2	-	-	CH(CH_2-CFCl)
B33	CH_2	-	-	C(S(O)Me)-(CH_2CH_2)
B34	CH_2	-	-	C(S(O)($NCOCF_3$)Me)-(CH_2CH_2)
B35	CH_2	-	-	C(S(O)(NH)Me)-(CH_2CH_2)
B36	C(CH_2CH_2)	-	-	C(COOEt)-(CH_2CH_2)

Cpd No.	A	X	Y	B
B37	$C(CH_2CH_2)$	-	-	$C(COOiBr)-(CH_2CH_2)$
B38	$C(CH_2CH_2)$	-	-	$CH(CH_2-CMe_2)$
B39	CMe_2	-	-	cyclopropyl
B40	$C(CH_2CH_2)$	-	-	$C(Me)-(CH_2CH_2)$

Table D: Preferred compounds of formula V represented by formula Va:



(Va),

Cpd No.	R_{91}	R_{92}	A	X	Y	B
D1	Me	Cl	CH_2	-	-	cyclopropyl
D2	Me	Cl	CHMe	-	-	cyclopropyl
D3	Me	Cl	$C(CH_2CH_2)$	-	-	cyclopropyl
D4	Me	Cl	$C(CH_2CH_2)$	-	-	cyclobutyl
D5	Me	Cl	CH_2	-	-	2,2-dichloro-cyclopropyl
D6	Me	Cl	CH_2	-	-	1-methyl-2,2-dichloro-cyclo-propyl
D7	Me	Cl	CH_2	-	-	2,2-dibromo-cyclopropyl

Cpd No.	R_{91}	R_{92}	A	X	Y	B
D8	Me	Cl	CH_2	-	-	1-methyl-2,2-dibromo-cyclo-propyl
D9	Me	Cl	CH_2	-	-	2,2,3,3-tetrafluoro-cyclobutyl
D12	Me	Cl	CH_2	-	-	C(SMe)-($CH_2CH_2CH_2$)
D13	Me	Cl	CH_2	-	-	C(S(O)Me)-($CH_2CH_2CH_2$)
D14	Me	Cl	CH_2	-	-	C($S(O)_2$Me)-($CH_2CH_2CH_2$)
D15	Me	Cl	CH_2	-	-	cyclobutyl
D16	Me	Cl	CH_2	-	-	C(Me)-(CH_2OCH_2)
D17	Me	Cl	CH_2	-	-	CH(CMe_2(CH-CH=CMe_2))
D18	Me	Cl	CH_2	-	-	C(CH_2OCH_3)-(CH_2OCH_2)
D19	Me	Cl	CH_2	-	-	CH(CH_2O)
D20	Me	Cl	CHCOOMe	-	-	cyclopropyl
D21	Me	Cl	CH_2	-	CH_2	CH(CH_2-CFCl)
D22	Me	Cl	CH_2	-	CH_2	cyclopropyl
D23	Me	Cl	CH_2	-	-	C(Me)-(CH_2CH_2)
D24	Me	Cl	CH_2	-	-	CH(CH_2-CMe_2)
D25	Me	Cl	CH_2	-	-	CH(CH_2CH_2O)
D26	Me	Cl	CH_2	-	-	C(S(O)($NCOCF_3$)Me)-($CH_2CH_2CH_2$)
D27	Me	Cl	CH_2	-	-	C(S(O)(NH)Me)-($CH_2CH_2CH_2$)
D28	Me	Cl	CH_2	-	-	CH(CMe_2CMe_2)

Cpd No.	R_{91}	R_{92}	A	X	Y	B
D29	Me	Cl	CH_2	-	-	$C(SMe)-(CH_2CH_2)$
D30	Me	Cl	CH_2	-	-	$C(S(O)_2Me)-(CH_2CH_2)$
D31	Me	Cl	CH_2	-	-	$C(CF_3)-(CH_2CH_2)$
D32	Me	Cl	CH_2	-	-	$CH(CH_2-CFCl)$
D33	Me	Cl	CH_2	-	-	$C(S(O)Me)-(CH_2CH_2)$
D34	Me	Cl	CH_2	-	-	$C(S(O)(NCOCF_3)Me)-(CH_2CH_2)$
D35	Me	Cl	CH_2	-	-	$C(S(O)(NH)Me)-(CH_2CH_2)$
D36	Me	Cl	$C(CH_2CH_2)$	-	-	$C(COOEt)-(CH_2CH_2)$
D37	Me	Cl	$C(CH_2CH_2)$	-	-	$C(COOiDr)-(CH_2CH_2)$
D38	Me	Cl	$C(CH_2CH_2)$	-	-	$CH(CH_2-CMe_2)$
D39	Cl	H	CH_2	-	-	cyclopropyl
D40	Cl	H	$C(CH_2CH_2)$	-	-	cyclopropyl
D41	Me	H	CH_2	-	-	cyclopropyl
D42	Me	H	$C(CH_2CH_2)$	-	-	cyclopropyl
D43	Me	Cl	CMe_2	-	-	cyclopropyl
D44	Me	Cl	$C(CH_2CH_2)$	-	-	$C(Me)-(CH_2CH_2)$
D45	Me	2-pyridyl	CH_2	-	-	cyclopropyl
D47	Me	2-pyridyl	$C(CH_2CH_2)$	-	-	cyclopropyl
D48	Me	Cl	$C(CH_2CH_2)$	-	-	cyclopropyl
D49	Me	3-pyridyl	CH_2	-	-	cyclopropyl

Cpd No.	R_{91}	R_{92}	A	X	Y	B
D50	Me	Cl	$C(CH_2CH_2)$	-	-	cyclopropyl
D51	Me	Cl	$C(CH_2CH_2)$	-	-	cyclopropyl
D52	Me	NH_2	$C(CH_2CH_2)$	-	-	cyclopropyl
D53	Me	NH_2	CH_2	-	-	cyclopropyl
D54	Me	I	$C(CH_2CH_2)$	-	-	cyclopropyl
D55	Me	Br	CH_2	-	-	cyclopropyl
D56	Me	Br	CH_2	-	-	cyclopropyl
D57	Me	Br	$C(CH_2CH_2)$	-	-	cyclopropyl
D58	Me	Br	CH_2	-	-	cyclopropyl
D59	Me	Br	$C(CH_2CH_2)$	-	-	cyclopropyl
D60	Me	NO_2	CH_2			cyclopropyl
D61	Me	NO_2	$C(CH_2CH_2)$			cyclopropyl
D62	Me	NO_2	$C(CH_2CH_2)$			cyclopropyl
D63	Me	NO_2	$C(CH_2CH_2)$			cyclopropyl
D64	Me	NO_2	$C(CH_2CH_2)$			cyclopropyl
D65	Me	Cl	CH_2	-	-	cyclobutyl
D66	Me	Cl	CHMe	-	-	cyclobutyl
D67	Me	Cl	$CH(CH_2)C$	-	-	$C(CH_2)_2$

Physical data for compounds of formula Va according to Table D:

Compound No.	melting point
D1	128-129 °C
D3	177-178 °C

What has been said above for tautomers and/or salts of compounds I applies analogously to starting materials mentioned hereinabove and hereinbelow with regard to the tautomers and/or salts thereof.

The reactions described hereinabove and hereinbelow are carried out in a manner known per se, for example in the absence or, normally, in the presence of a suitable solvent or diluent or of a mixture of these, the process being carried out, as required, with cooling, at room temperature or with heating, for example in a temperature range of from approximately -80°C to the boiling point of the reaction mixture, preferably from approximately -20°C to approximately +150°C, and, if required, in a sealed vessel, under reduced, normal or elevated pressure, in an inert gas atmosphere and/or under anhydrous conditions. Especially advantageous reaction conditions can be seen from the examples.

Unless otherwise specified, the starting materials mentioned hereinabove and hereinbelow, which are used for the preparation of the compounds I or, where appropriate, the tautomers thereof, in each case in free form or in salt form, are known or can be prepared by methods known per se, for example in accordance with the information given below.

Variant a)

The reactants can be reacted with each other as such, i. e. without addition of a solvent or diluent, for example in the melt. In most cases, however, it is advantageous to add an inert solvent or diluent or a mixture of these. Examples of such solvents or diluents which may be mentioned are: aromatic, aliphatic and alicyclic hydrocarbons and halohydrocarbons such as benzene, toluene, xylene, mesitylene, tetralin, chlorobenzene, dichlorobenzene, bromobenzene, petroleum ether, hexane, cyclohexane, dichloromethane, trichloromethane, tetrachloromethane, dichloroethane, trichloroethene or tetrachloroethene; esters such as ethyl acetate; ethers such as diethyl ether, dipropyl ether, diisopropyl ether, dibutyl ether, tert-butyl

methyl ether, ethyleneglycol monomethyl ether, ethylene glycol monoethyl ether, ethylene glycol dimethyl ether, dimethoxydiethyl ether, tetrahydrofuran or dioxane; ketones, such as acetone, methyl ethyl ketone or methyl isobutyl ketone; alcohols, such as methanol, ethanol, propanol, isopropanol, butanol, ethylene glycol or glycerol; amides such as N,N-dimethylformamide, N,N-diethylformamide, N,N-dimethylacetamide, N-methylpyrrolidone or hexamethylphosphoric triamide; nitriles, such as acetonitrile or propionitrile; and sulfoxides, such as dimethyl sulfoxide.

The reaction is advantageously carried out in a temperature range from approximately -80°C to approximately +140°C, preferably from approximately -30°C to approximately +100°C, in many cases in the range between room temperature and approximately +80°C.

Variant b)

Examples of suitable leaving groups X_1 in the compounds IV are hydroxy, C_1-C_8alkoxy, halo-C_1-C_8alkoxy, C_1-C_8alkanoyloxy, mercapto, C_1-C_8alkylthio, halo-C_1-C_8alkylthio, C_1-C_8alkylsulfonyloxy, halo-C_1-C_8alkylsulfonyloxy, benzenesulfonyloxy, toluenesulfonyloxy and halogen, such as chlorine. Preferred are hydroxy, C_1-C_8alkoxy and chlorine.

The reactants can be reacted with each other as such, i.e. without adding a solvent or diluent. In most cases, however, it is advantageous to add an inert solvent or diluent or a mixture of these. Examples of suitable solvents or diluents are of the type described under variant a).

The reaction is advantageously carried out in a temperature range from approximately -80°C to approximately +140°C, preferably from approximately -20°C to approximately +100°C, in many cases in the range between room temperature and the reflux temperature of the reaction mixture.

Variant c)

Examples of suitable leaving groups X_2 in the compounds VI are hydroxy, C_1-C_8alkoxy, halo-C_1-C_8alkoxy, C_1-C_8alkanoyloxy, mercapto, C_1-C_8alkylthio, halo-C_1-C_8alkylthio, C_1-C_8alkylsulfonyloxy, halo-C_1-C_8alkylsulfonyloxy, benzenesulfonyloxy, toluenesulfonyloxy and halogen, such as chlorine. Preferred are hydroxy and chlorine.

The reactants can be reacted in the presence of a base. Examples of suitable bases for facilitating the detachment of HX_2 are alkali metal or alkaline earth metal hydroxides, alkali metal or alkaline earth metal hydrides, alkali metal or alkaline earth metal amides, alkali metal or alkaline earth metal alkoxides, alkali metal or alkaline earth metal acetates, alkali metal or alkaline earth metal carbonates, alkali metal or alkaline earth metal dialkylamides or alkali metal or alkaline earth metal alkylsilylamides, alkylamines, alkylenediamines, free or N-alkylated saturated or unsaturated cycloalkylamines, basic heterocycles, ammonium hydroxides and carbocyclic amines. Examples which may be mentioned are sodium hydroxide, sodium hydride, sodium amide, sodium methoxide, sodium acetate, sodium carbonate, potassium tert-butoxide, potassium hydroxide, potassium carbonate, potassium hydride, lithium diisopropylamide, potassium bis(trimethylsilyl)amide, calcium hydride, triethylamine, diisopropylethylamine, triethylenediamine, cyclohexylamine, N-cyclohexyl-N,N-dimethylamine, N,N-diethylaniline, pyridine, 4-(N,N-dimethylamino)pyridine, quinuclidine, N-methylmorpholine, benzyltrimethylammonium hydroxide and 1,8-diazabicyclo[5.4.0]undec-7-ene (DBU).

The reactants can be reacted with each other as such, i.e. without adding a solvent or diluent. In most cases, however, it is advantageous to add an inert solvent or diluent or a mixture of these. Examples of suitable solvents or diluents are of the type described under variant a). If the reaction is carried out in the presence of a base, bases which are employed in excess, such as triethylamine, pyridine, N-methylmorpholine or N,N-diethylaniline, may also act as solvents or diluents.

The reaction is advantageously carried out in a temperature range from approximately -80°C to approximately +140°C, preferably from approximately -30°C to approximately +100°C, in many cases in the range between room temperature and approximately +80°C.

A compound I can be converted in a manner known per se into another compound I by replacing one or more substituents of the starting compound I in the customary manner by (an)other substituent(s) according to the invention.

For example,

- in compounds I, in which R_2 is hydrogen, this hydrogen R_2 can be replaced by a substituent R_2, which is different from hydrogen; or

- in compounds I, in which R_3 is hydrogen, this hydrogen R_3 can be replaced by a substituent R_3, which is different from hydrogen.

Depending on the choice of the reaction conditions and starting materials which are suitable in each case, it is possible, for example, in one reaction step only to replace one substituent by another substituent according to the invention, or a plurality of substituents can be replaced by other substituents according to the invention in the same reaction step.

Salts of compounds I can be prepared in a manner known per se. Thus, for example, acid addition salts of compounds I are obtained by treatment with a suitable acid or a suitable ion exchanger reagent and salts with bases are obtained by treatment with a suitable base or with a suitable ion exchanger reagent.

Salts of compounds I can be converted in the customary manner into the free compounds I, acid addition salts, for example, by treatment with a suitable basic compound or with a suitable ion exchanger reagent and salts with bases, for example, by treatment with a suitable acid or with a suitable ion exchanger reagent.

Salts of compounds I can be converted in a manner known per se into other salts of compounds I, acid addition salts, for example, into other acid addition salts, for example by treatment of a salt of inorganic acid such as hydrochloride with a suitable metal salt such as a sodium, barium or silver salt, of an acid, for example with silver acetate, in a suitable solvent in which an inorganic salt which forms, for example silver chloride, is insoluble and thus precipitates from the reaction mixture.

Depending on the procedure or the reaction conditions, the compounds I, which have salt-forming properties can be obtained in free form or in the form of salts.

The compounds I and, where appropriate, the tautomers thereof, in each case in free form or in salt form, can be present in the form of one of the isomers which are possible or as a mixture of these, for example in the form of pure isomers, such as antipodes and/or diastereomers, or as isomer mixtures, such as enantiomer mixtures, for example racemates, diastereomer mixtures or racemate mixtures, depending on the number, absolute and relative configuration of asymmetric carbon atoms which occur in the molecule and/or

depending on the configuration of non-aromatic double bonds which occur in the molecule; the invention relates to the pure isomers and also to all isomer mixtures which are possible and is to be understood in each case in this sense hereinabove and hereinbelow, even when stereochemical details are not mentioned specifically in each case.

Diastereomer mixtures or racemate mixtures of compounds I, in free form or in salt form, which can be obtained depending on which starting materials and procedures have been chosen can be separated in a known manner into the pure diasteromers or racemates on the basis of the physicochemical differences of the components, for example by fractional crystallization, distillation and/or chromatography.

Enantiomer mixtures, such as racemates, which can be obtained in a similar manner can be resolved into the optical antipodes by known methods, for example by recrystallization from an optically active solvent, by chromatography on chiral adsorbents, for example high-performance liquid chromatography (HPLC) on acetyl celulose, with the aid of suitable microorganisms, by cleavage with specific, immobilized enzymes, via the formation of inclusion compounds, for example using chiral crown ethers, where only one enantiomer is complexed, or by conversion into diastereomeric salts, for example by reacting a basic end-product racemate with an optically active acid, such as a carboxylic acid, for example camphor, tartaric or malic acid, or sulfonic acid, for example camphorsulfonic acid, and separating the diastereomer mixture which can be obtained in this manner, for example by fractional crystallization based on their differing solubilities, to give the diastereomers, from which the desired enantiomer can be set free by the action of suitable agents, for example basic agents.

Pure diastereomers or enantiomers can be obtained according to the invention not only by separating suitable isomer mixtures, but also by generally known methods of diastereoselective or enantioselective synthesis, for example by carrying out the process according to the invention with starting materials of a suitable stereochemistry.

It is advantageous to isolate or synthesize in each case the biologically more effective isomer, for example enantiomer or diastereomer, or isomer mixture, for example enantiomer mixture or diastereomer mixture, if the individual components have a different biological activity.

The compounds I and, where appropriate, the tautomers thereof, in each case in free form or in salt form, can, if appropriate, also be obtained in the form of hydrates and/or include other solvents, for example those which may have been used for the crystallization of compounds which are present in solid form.

The compounds I according to the invention are preventively and/or curatively valuable active ingredients in the field of pest control, even at low rates of application, which have a very favorable biocidal spectrum and are well tolerated by warm-blooded species, fish and plants. The active ingredients according to the invention act against all or individual developmental stages of normally sensitive, but also resistant, animal pests, such as insects or representatives of the order Acarina. The insecticidal or acaricidal activity of the active ingredients according to the invention can manifest itself directly, i. e. in destruction of the pests, which takes place either immediately or only after some time has elapsed, for example during ecdysis, or indirectly, for example in a reduced oviposition and/or hatching rate, a good activity corresponding to a destruction rate (mortality) of at least 50 to 60%.

Examples of the abovementioned animal pests are:
from the order *Acarina*, for example,
Acarus siro, Aceria sheldoni, Aculus schlechtendali, Amblyomma spp., Argas spp., Boophilus spp., Brevipalpus spp., Bryobia praetiosa, Calipitrimerus spp., Chorioptes spp., Dermanyssus gallinae, Eotetranychus carpini, Eriophyes spp., Hyalomma spp., Ixodes spp., Olygonychus pratensis, Ornithodoros spp., Panonychus spp., Phyllocoptruta oleivora, Polyphagotarsonemus latus, Psoroptes spp., Rhipicephalus spp., Rhizoglyphus spp., Sarcoptes spp., Tarsonemus spp. and Tetranychus spp.;
from the order *Anoplura*, for example,
Haematopinus spp., Linognathus spp., Pediculus spp., Pemphigus spp. and Phylloxera spp.;
from the order *Coleoptera*, for example,
Agriotes spp., Anthonomus spp., Atomaria linearis, Chaetocnema tibialis, Cosmopolites spp., Curculio spp., Dermestes spp., Diabrotica spp., Epilachna spp., Eremnus spp., Leptinotarsa decemlineata, Lissorhoptrus spp., Melolontha spp., Orycaephilus spp., Otiorhynchus spp., Phlyctinus spp., Popillia spp., Psylliodes spp., Rhizopertha spp., Scarabeidae, Sitophilus spp., Sitotroga spp., Tenebrio spp., Tribolium spp. and Trogoderma spp.;
from the order *Diptera,* for example,

Aedes spp., Antherigona soccata, Bibio hortulanus, Calliphora erythrocephala, Ceratitis spp., Chrysomyia spp., Culex spp., Cuterebra spp., Dacus spp., Drosophila melanogaster, Fannia spp., Gastrophilus spp., Glossina spp., Hypoderma spp., Hyppobosca spp., Liriomyza spp., Lucilia spp., Melanagromyza spp., Musca spp., Oestrus spp., Orseolia spp., Oscinella frit, Pegomyia hyoscyami, Phorbia spp., Rhagoletis pomonella, Sciara spp., Stomoxys spp., Tabanus spp., Tannia spp. and Tipula spp.;

from the order *Heteroptera,* for example,
Cimex spp., Distantiella theobroma, Dysdercus spp., Euchistus spp., Eurygaster spp., Leptocorisa spp., Nezara spp., Piesma spp., Rhodnius spp., Sahlbergella singularis, Scotinophara spp. and Triatoma spp.;
from the order *Homoptera*, for example,
Aleurothrixus floccosus, Aleyrodes brassicae, Aonidiella spp., Aphididae, Aphis spp., Aspidiotus spp., Bemisia tabaci, Ceroplaster spp., Chrysomphalus aonidium, Chrysomphalus dictyospermi, Coccus hesperidum, Empoasca spp., Eriosoma larigerum, Erythroneura spp., Gascardia spp., Laodelphax spp., Lecanium corni, Lepidosaphes spp., Macrosiphus spp., Myzus spp., Nephotettix spp., Nilaparvata spp., Parlatoria spp., Pemphigus spp., Planococcus spp., Pseudaulacaspis spp., Pseudococcus spp., Psylla spp., Pulvinaria aethiopica, Quadraspidiotus spp., Rhopalosiphum spp., Saissetia spp., Scaphoideus spp., Schizaphis spp., Sitobion spp., Trialeurodes vaporariorum, Trioza erytreae and Unaspis citri;
from the order *Hymenoptera*, for example,
Acromyrmex, Atta spp., Cephus spp., Diprion spp., Diprionidae, Gilpinia polytoma, Hoplocampa spp., Lasius spp., Monomorium pharaonis, Neodiprion spp., Solenopsis spp. and Vespa spp.;
from the order *Isoptera*, for example,
Reticulitermes spp.;
from the order *Lepidoptera*, for example,
Acleris spp., Adoxophyes spp., Aegeria spp., Agrotis spp., Alabama argillaceae, Amylois spp., Anticarsia gemmatalis, Archips spp., Argyrotaenia spp., Autographa spp., Busseola fusca, Cadra cautella, Carposina nipponensis, Chilo spp., Choristoneura spp., Clysia ambiguella, Cnaphalocrocis spp., Cnephasia spp., Cochylis spp., Coleophora spp., Crocidolomia binotalis, Cryptophlebia leucotreta, Cydia spp., Diatraea spp., Diparopsis castanea, Earias spp., Ephestia spp., Eucosma spp., Eupoecilia ambiguella, Euproctis spp., Euxoa spp., Grapholita spp., Hedya nubiferana, Heliothis spp., Hellula undalis, Hyphantria cunea, Keiferia

lycopersicella, Leucoptera scitella, Lithocollethis spp., Lobesia botrana, Lymantria spp., Lyonetia spp., Malacosoma spp., Mamestra brassicae, Manduca sexta, Operophtera spp., Ostrinia nubilalis, Pammene spp., Pandemis spp., Panolis flammea, Pectinophora gossypiela, Phthorimaea operculella, Pieris rapae, Pieris spp., Plutella xylostella, Prays spp., Scirpophaga spp., Sesamia spp., Sparganothis spp., Spodoptera spp., Synanthedon spp., Thaumetopoea spp., Tortrix spp., Trichoplusia ni and Yponomeuta spp.;
from the order *Mallophaga*, for example,
Damalinea spp. and Trichodectes spp.;
from the order *Orthoptera*, for example,
Blatta spp., Blattella spp., Gryllotalpa spp., Leucophaea maderae, Locusta spp., Periplaneta spp. and Schistocerca spp.;
from the order *Psocoptera*, for example,
Liposcelis spp.;
from the order *Siphonaptera*, for example,
Ceratophyllus spp., Ctenocephalides spp. and Xenopsylla cheopis;
from the order *Thysanoptera*, for example,
Frankliniella spp., Hercinothrips spp., Scirtothrips aurantii, Taeniothrips spp., Thrips palmi and Thrips tabaci; and
from the order *Thysanura*, for example,
Lepisma saccharina.

The active ingredients according to the invention can be used for controlling, i. e. containing or destroying, pests of the abovementioned type which occur in particular on plants, especially on useful plants and ornamentals in agriculture, in horticulture and in forests, or on organs, such as fruits, flowers, foliage, stalks, tubers or roots, of such plants, and in some cases even plant organs which are formed at a later point in time remain protected against these pests.

Suitable target crops are, in particular, cereals, such as wheat, barley, rye, oats, rice, maize or sorghum; beet, such as sugar or fodder beet; fruit, for example pomaceous fruit, stone fruit or soft fruit, such as apples, pears, plums, peaches, almonds, cherries or berries, for example strawberries, raspberries or blackberries; leguminous crops, such as beans, lentils, peas or soya; oil crops, such as oilseed rape, mustard, poppies, olives, sunflowers, coconut, castor, cocoa or ground nuts; cucurbits, such as pumpkins, cucumbers or melons; fibre

plants, such as cotton, flax, hemp or jute; citrus fruit, such as oranges, lemons, grapefruit or tangerines; vegetables, such as spinach, lettuce, asparagus, cabbages, carrots, onions, tomatoes, potatoes or bell peppers; Lauraceae, such as avocado, Cinnamonium or camphor; and also tobacco, nuts, coffee, eggplants, sugarcane, tea, pepper, grapevines, hops, the plantain family, latex plants and ornamentals.

The active ingredients according to the invention are especially suitable for controlling Aphis craccivora, Diabrotica balteata, Heliothis virescens, Myzus persicae, Plutella xylostella and Spodoptera littoralis in cotton, vegetable, maize, rice and soya crops. The active ingredients according to the invention are further especially suitable for controlling Mamestra (preferably in vegetables), Cydia pomonella (preferably in apples), Empoasca(preferably in vegetables, vineyards), Leptinotarsa (preferably in potatos) and Chilo supressalis (preferably in rice).

The term "crops" is to be understood as including also crops that have been rendered tolerant to herbicides like bromoxynil or classes of herbicides (such as, for example, HPPD inhibitors, ALS inhibitors, for example primisulfuron, prosulfuron and trifloxysulfuron, EPSPS (5-enol-pyrovyl-shikimate-3-phosphate-synthase) inhibitors, GS (glutamine synthetase) inhibitors) as a result of conventional methods of breeding or genetic engineering. An example of a crop that has been rendered tolerant to imidazolinones, e.g. imazamox, by conventional methods of breeding (mutagenesis) is Clearfield® summer rape (Canola). Examples of crops that have been rendered tolerant to herbicides or classes of herbicides by genetic engineering methods include glyphosate- and glufosinate-resistant maize varieties commercially available under the trade names RoundupReady® , Herculex I® and LibertyLink®.

The term "crops" is to be understood as including also crop plants which have been so transformed by the use of recombinant DNA techniques that they are capable of synthesising one or more selectively acting toxins, such as are known, for example, from toxin-producing bacteria, especially those of the genus Bacillus.

Toxins that can be expressed by such transgenic plants include, for example, insecticidal proteins, for example insecticidal proteins from Bacillus cereus or Bacillus popliae; or insecticidal proteins from Bacillus thuringiensis, such as δ-endotoxins, e.g. CryIA(b), CryIA(c), CryIF, CryIF(a2), CryIIA(b), CryIIIA, CryIIIB(b1) or Cry9c, or vegetative insecticidal

proteins (VIP), e.g. VIP1, VIP2, VIP3 or VIP3A; or insecticidal proteins of bacteria colonising nematodes, for example Photorhabdus spp. or Xenorhabdus spp., such as Photorhabdus luminescens, Xenorhabdus nematophilus; toxins produced by animals, such as scorpion toxins, arachnid toxins, wasp toxins and other insect-specific neurotoxins; toxins produced by fungi, such as Streptomycetes toxins, plant lectins, such as pea lectins, barley lectins or snowdrop lectins; agglutinins; proteinase inhibitors, such as trypsine inhibitors, serine protease inhibitors, patatin, cystatin, papain inhibitors; ribosome-inactivating proteins (RIP), such as ricin, maize-RIP, abrin, luffin, saporin or bryodin; steroid metabolism enzymes, such as 3-hydroxysteroidoxidase, ecdysteroid-UDP-glycosyl-transferase, cholesterol oxidases, ecdysone inhibitors, HMG-COA-reductase, ion channel blockers, such as blockers of sodium or calcium channels, juvenile hormone esterase, diuretic hormone receptors, stilbene synthase, bibenzyl synthase, chitinases and glucanases.

In the context of the present invention there are to be understood by δ-endotoxins, for example CryIA(b), CryIA(c), CryIF, CryIF(a2), CryIIA(b), CryIIIA, CryIIIB(b1) or Cry9c, or vegetative insecticidal proteins (VIP), for example VIP1, VIP2, VIP3 or VIP3A, expressly also hybrid toxins, truncated toxins and modified toxins. Hybrid toxins are produced recombinantly by a new combination of different domains of those proteins (see, for example, WO 02/15701). Truncated toxins, for example a truncated CryIA(b), are known. In the case of modified toxins, one or more amino acids of the naturally occurring toxin are replaced. In such amino acid replacements, preferably non-naturally present protease recognition sequences are inserted into the toxin, such as, for example, in the case of CryIIIA055, a cathepsin-D-recognition sequence is inserted into a CryIIIA toxin (see WO 03/018810).

Examples of such toxins or transgenic plants capable of synthesising such toxins are disclosed, for example, in EP-A-0 374 753, WO 93/07278, WO 95/34656, EP-A-0 427 529, EP-A-451 878 and WO 03/052073.

The processes for the preparation of such transgenic plants are generally known to the person skilled in the art and are described, for example, in the publications mentioned above. Cryl-type deoxyribonucleic acids and their preparation are known, for example, from WO 95/34656, EP-A-0 367 474, EP-A-0 401 979 and WO 90/13651.

The toxin contained in the transgenic plants imparts to the plants tolerance to harmful insects. Such insects can occur in any taxonomic group of insects, but are especially commonly found in the beetles (Coleoptera), two-winged insects (Diptera) and butterflies (Lepidoptera).

Transgenic plants containing one or more genes that code for an insecticidal resistance and express one or more toxins are known and some of them are commercially available. Examples of such plants are: YieldGard® (maize variety that expresses a CryIA(b) toxin); YieldGard Rootworm® (maize variety that expresses a CryIIIB(b1) toxin); YieldGard Plus® (maize variety that expresses a CryIA(b) and a CryIIIB(b1) toxin); Starlink® (maize variety that expresses a Cry9(c) toxin); Herculex I® (maize variety that expresses a CryIF(a2) toxin and the enzyme phosphinothricine N-acetyltransferase (PAT) to achieve tolerance to the herbicide glufosinate ammonium); NuCOTN 33B® (cotton variety that expresses a CryIA(c) toxin); Bollgard I® (cotton variety that expresses a CryIA(c) toxin); Bollgard II® (cotton variety that expresses a CryIA(c) and a CryIIA(b) toxin); VIPCOT® (cotton variety that expresses a VIP toxin); NewLeaf® (potato variety that expresses a CryIIIA toxin); Nature-Gard® Agrisure® GT Advantage (GA21 glyphosate-tolerant trait), Agrisure® CB Advantage (Bt11 corn borer (CB) trait) and Protecta®.

Further examples of such transgenic crops are:

1. **Bt11 Maize** from Syngenta Seeds SAS, Chemin de l'Hobit 27, F-31 790 St. Sauveur, France, registration number C/FR/96/05/10. Genetically modified *Zea mays* which has been rendered resistant to attack by the European corn borer (*Ostrinia nubilalis* and *Sesamia nonagrioides*) by transgenic expression of a truncated CryIA(b) toxin. Bt11 maize also transgenically expresses the enzyme PAT to achieve tolerance to the herbicide glufosinate ammonium.

2. **Bt176 Maize** from Syngenta Seeds SAS, Chemin de l'Hobit 27, F-31 790 St. Sauveur, France, registration number C/FR/96/05/10. Genetically modified *Zea mays* which has been rendered resistant to attack by the European corn borer (*Ostrinia nubilalis* and *Sesamia nonagrioides*) by transgenic expression of a CryIA(b) toxin. Bt176 maize also transgenically expresses the enzyme PAT to achieve tolerance to the herbicide glufosinate ammonium.

3. **MIR604 Maize** from Syngenta Seeds SAS, Chemin de l'Hobit 27, F-31 790 St. Sauveur, France, registration number C/FR/96/05/10. Maize which has been rendered insect-resistant by transgenic expression of a modified CryIIIA toxin. This toxin is Cry3A055 modified by insertion of a cathepsin-D-protease recognition sequence. The preparation of such transgenic maize plants is described in WO 03/018810.

4. **MON 863 Maize** from Monsanto Europe S.A. 270-272 Avenue de Tervuren, B-1150 Brussels, Belgium, registration number C/DE/02/9. MON *863* expresses a CryIIIB(b1) toxin and has resistance to certain Coleoptera insects.

5. **IPC 531 Cotton** from Monsanto Europe S.A. 270-272 Avenue de Tervuren, B-1150 Brussels, Belgium, registration number C/ES/96/02.

6. **1507 Maize** from Pioneer Overseas Corporation, Avenue Tedesco, 7 B-1160 Brussels, Belgium, registration number C/NL/00/10. Genetically modified maize for the expression of the protein Cry1F for achieving resistance to certain Lepidoptera insects and of the PAT protein for achieving tolerance to the herbicide glufosinate ammonium.

7. **NK603 × MON 810 Maize** from Monsanto Europe S.A. 270-272 Avenue de Tervuren, B-1150 Brussels, Belgium, registration number C/GB/02/M3/03. Consists of conventionally bred hybrid maize varieties by crossing the genetically modified varieties NK603 and MON 810. NK603 × MON 810 Maize transgenically expresses the protein CP4 EPSPS, obtained from *Agrobacterium sp.* strain CP4, which imparts tolerance to the herbicide Roundup® (contains glyphosate), and also a CryIA(b) toxin obtained from *Bacillus thuringiensis subsp. kurstaki* which brings about tolerance to certain Lepidoptera, include the European corn borer.

Transgenic crops of insect-resistant plants are also described in BATS (Zentrum für Biosicherheit und Nachhaltigkeit, Zentrum BATS, Clarastrasse 13, 4058 Basel, Switzerland) Report 2003, (http://bats.ch).

The term "crops" is to be understood as including also crop plants which have been so transformed by the use of recombinant DNA techniques that they are capable of synthesising antipathogenic substances having a selective action, such as, for example, the

so-called "pathogenesis-related proteins" (PRPs, see e.g. EP-A-0 392 225). Examples of such antipathogenic substances and transgenic plants capable of synthesising such antipathogenic substances are known, for example, from EP-A-0 392 225, WO 95/33818, and EP-A-0 353 191. The methods of producing such transgenic plants are generally known to the person skilled in the art and are described, for example, in the publications mentioned above.

Antipathogenic substances which can be expressed by such transgenic plants include, for example, ion channel blockers, such as blockers for sodium and calcium channels, for example the viral KP1, KP4 or KP6 toxins; stilbene synthases; bibenzyl synthases; chitinases; glucanases; the so-called "pathogenesis-related proteins" (PRPs; see e.g. EP-A-0 392 225); antipathogenic substances produced by microorganisms, for example peptide antibiotics or heterocyclic antibiotics (see e.g. WO 95/33818) or protein or polypeptide factors involved in plant pathogen defence (so-called "plant disease resistance genes", as described in WO 03/000906).

Further areas of use of the compositions according to the invention are the protection of stored goods and storerooms and the protection of raw materials, such as wood, textiles, floor coverings or buildings, and also in the hygiene sector, especially the protection of humans, domestic animals and productive livestock against pests of the mentioned type.

In the hygiene sector, the compositions according to the invention are active against ectoparasites such as hard ticks, soft ticks, mange mites, harvest mites, flies (biting and licking), parasitic fly larvae, lice, hair lice, bird lice and fleas.

Examples of such parasites are:
Of the order Anoplurida: Haematopinus spp., Linognathus spp., Pediculus spp. and Phtirus spp., Solenopotes spp..

Of the order Mallophagida: Trimenopon spp., Menopon spp., Trinoton spp., Bovicola spp., Werneckiella spp., Lepikentron spp., Damalina spp., Trichodectes spp. and Felicola spp..

Of the order Diptera and the suborders Nematocerina and Brachycerina, for example Aedes spp., Anopheles spp., Culex spp., Simulium spp., Eusimulium spp., Phlebotomus spp.,

Lutzomyia spp., Culicoides spp., Chrysops spp., Hybomitra spp., Atylotus spp., Tabanus spp., Haematopota spp., Philipomyia spp., Braula spp., Musca spp., Hydrotaea spp., Stomoxys spp., Haematobia spp., Morellia spp., Fannia spp., Glossina spp., Calliphora spp., Lucilia spp., Chrysomyia spp., Wohlfahrtia spp., Sarcophaga spp., Oestrus spp., Hypoderma spp., Gasterophilus spp., Hippobosca spp., Lipoptena spp. and Melophagus spp..

Of the order Siphonapterida, for example Pulex spp., Ctenocephalides spp., Xenopsylla spp., Ceratophyllus spp..

Of the order Heteropterida, for example Cimex spp., Triatoma spp., Rhodnius spp., Panstrongylus spp..

Of the order Blattarida, for example Blatta orientalis, Periplaneta americana, Blattelagermanica and Supella spp..

Of the subclass Acaria (Acarida) and the orders Meta- and Meso-stigmata, for example Argas spp., Ornithodorus spp., Otobius spp., Ixodes spp., Amblyomma spp., Boophilus spp., Dermacentor spp., Haemophysalis spp., Hyalomma spp., Rhipicephalus spp., Dermanyssus spp., Raillietia spp., Pneumonyssus spp., Sternostoma spp. and Varroa spp..

Of the orders Actinedida (Prostigmata) and Acaridida (Astigmata), for example Acarapis spp., Cheyletiella spp., Ornithocheyletia spp., Myobia spp., Psorergatesspp., Demodex spp., Trombicula spp., Listrophorus spp., Acarus spp., Tyrophagus spp., Caloglyphus spp., Hypodectes spp., Pterolichus spp., Psoroptes spp., Chorioptes spp., Otodectes spp., Sarcoptes spp., Notoedres spp., Knemidocoptes spp., Cytodites spp. and Laminosioptes spp..

The compositions according to the invention are also suitable for protecting against insect infestation in the case of materials such as wood, textiles, plastics, adhesives, glues, paints, paper and card, leather, floor coverings and buildings.

The compositions according to the invention can be used, for example, against the following pests: beetles such as Hylotrupes bajulus, Chlorophorus pilosis, Anobium punctatum, Xestobium rufovillosum, Ptilinuspecticornis, Dendrobium pertinex, Ernobius mollis, Priobium

carpini, Lyctus brunneus, Lyctus africanus, Lyctus planicollis, Lyctus linearis, Lyctus pubescens, Trogoxylon aequale, Minthesrugicollis, Xyleborus spec.,Tryptodendron spec., Apate monachus, Bostrychus capucins, Heterobostrychus brunneus, Sinoxylon spec. and Dinoderus minutus, and also hymenopterans such as Sirex juvencus, Urocerus gigas, Urocerus gigas taignus and Urocerus augur, and termites such as Kalotermes flavicollis, Cryptotermes brevis, Heterotermes indicola, Reticulitermes flavipes, Reticulitermes santonensis, Reticulitermes lucifugus, Mastotermes darwiniensis, Zootermopsis nevadensis and Coptotermes formosanus, and bristletails such as Lepisma saccharina.

The invention therefore also relates to pesticidal compositions such as emulsifiable concentrates, suspension concentrates, directly sprayable or dilutable solutions, spreadable pastes, dilute emulsions, soluble powders, dispersible powders, wettable powders, dusts, granules or encapsulations in polymeric substances, which comprise - at least - one of the active ingredients according to the invention and which are to be selected to suit the intended aims and the prevailing circumstances.

In these compositions, the active ingredient is employed in pure form, a solid active ingredient for example in a specific particle size, or, preferably, together with - at least - one of the auxiliaries conventionally used in the art of formulation, such as extenders, for example solvents or solid carriers, or such as surface-active compounds (surfactants).

Examples of suitable solvents are: unhydrogenated or partially hydrogenated aromatic hydrocarbons, preferably the fractions C_8 to C_{12} of alkylbenzenes, such as xylene mixtures, alkylated naphthalenes or tetrahydronaphthalene, aliphatic or cycloaliphatic hydrocarbons, such as paraffins or cyclohexane, alcohols such as ethanol, propanol or butanol, glycols and their ethers and esters such as propylene glycol, dipropylene glycol ether, ethylene glycol or ethylene glycol monomethyl ether or ethylene glycol monoethyl ether, ketones, such as cyclohexanone, isophorone or diacetone alcohol, strongly polar solvents, such as N-methylpyrrolid-2-one, dimethyl sulfoxide or N,N-dimethylformamide, water, unepoxidized or epoxidized vegetable oils, such as unexpodized or epoxidized rapeseed, castor, coconut or soya oil, and silicone oils.

Solid carriers which are used for example for dusts and dispersible powders are, as a rule, ground natural minerals such as calcite, talc, kaolin, montmorillonite or attapulgite. To improve the physical properties, it is also possible to add highly disperse silicas or highly dis-

perse absorbtive polymers. Suitable particulate adsorptive carriers for granules are porous types, such as pumice, brick grit, sepiolite or bentonite, and suitable non-sorptive carrier materials are calcite or sand. In addition, a large number of granulated materials of inorganic or organic nature can be used, in particular dolomite or comminuted plant residues.

Suitable surface-active compounds are, depending on the type of the active ingredient to be formulated, non-ionic, cationic and/or anionic surfactants or surfactant mixtures which have good emulsifying, dispersing and wetting properties. The surfactants mentioned below are only to be considered as examples; a large number of further surfactants which are conventionally used in the art of formulation and suitable according to the invention are described in the relevant literature.

Suitable non-ionic surfactants are, especially, polyglycol ether derivatives of aliphatic or cycloaliphatic alcohols, of saturated or unsaturated fatty acids or of alkyl phenols which may contain approximately 3 to approximately 30 glycol ether groups and approximately 8 to approximately 20 carbon atoms in the (cyclo)aliphatic hydrocarbon radical or approximately 6 to approximately 18 carbon atoms in the alkyl moiety of the alkyl phenols. Also suitable are water-soluble polyethylene oxide adducts with polypropylene glycol, ethylenediaminopolypropylene glycol or alkyl polypropylene glycol having 1 to approximately 10 carbon atoms in the alkyl chain and approximately 20 to approximately 250 ethylene glycol ether groups and approximately 10 to approximately 100 propylene glycol ether groups. Normally, the abovementioned compounds contain 1 to approximately 5 ethylene glycol units per propylene glycol unit. Examples which may be mentioned are nonylphenoxypolyethoxyethanol, castor oil polyglycol ether, polypropylene glycol/polyethylene oxide adducts, tributylphenoxypolyethoxyethanol, polyethylene glycol or octylphenoxypolyethoxyethanol. Also suitable are fatty acid esters of polyoxyethylene sorbitan, such as polyoxyethylene sorbitan trioleate.

The cationic surfactants are, especially, quarternary ammonium salts which generally have at least one alkyl radical of approximately 8 to approximately 22 C atoms as substituents and as further substituents (unhalogenated or halogenated) lower alkyl or hydroxyalkyl or benzyl radicals. The salts are preferably in the form of halides, methylsulfates or ethylsulfates. Examples are stearyltrimethylammonium chloride and benzylbis(2-chloroethyl)ethylammonium bromide.

Examples of suitable anionic surfactants are water-soluble soaps or water-soluble synthetic surface-active compounds. Examples of suitable soaps are the alkali, alkaline earth or (unsubstituted or substituted) ammonium salts of fatty acids having approximately 10 to approximately 22 C atoms, such as the sodium or potassium salts of oleic or stearic acid, or of natural fatty acid mixtures which are obtainable for example from coconut or tall oil; mention must also be made of the fatty acid methyl taurates. However, synthetic surfactants are used more frequently, in particular fatty sulfonates, fatty sulfates, sulfonated benzimidazole derivatives or alkylaryl sulfonates. As a rule, the fatty sulfonates and fatty sulfates are present as alkali, alkaline earth or (substituted or unsubstituted) ammonium salts and they generally have an alkyl radical of approximately 8 to approximately 22 C atoms, alkyl also to be understood as including the alkyl moiety of acyl radicals; examples which may be mentioned are the sodium or calcium salts of lignosulfonic acid, of the dodecylsulfuric ester or of a fatty alcohol sulfate mixture prepared from natural fatty acids. This group also includes the salts of the sulfuric esters and sulfonic acids of fatty alcohol/ethylene oxide adducts. The sulfonated benzimidazole derivatives preferably contain 2 sulfonyl groups and a fatty acid radical of approximately 8 to approximately 22 C atoms. Examples of alkylarylsulfonates are the sodium, calcium or triethanolammonium salts of decylbenzenesulfonic acid, of dibutylnaphthalenesulfonic acid or of a naphthalenesulfonic acid/formaldehyde condensate. Also possible are, furthermore, suitable phosphates, such as salts of the phosphoric ester of a p-nonylphenol/(4-14)ethylene oxide adduct, or phospholipids.

As a rule, the compositions comprise 0.1 to 99%, especially 0.1 to 95%, of active ingredient and 1 to 99.9%, especially 5 to 99.9%, of at least one solid or liquid adjuvant, it being possible as a rule for 0 to 25%, especially 0.1 to 20%, of the composition to be surfactants(% in each case meaning percent by weight). Whereas concentrated compositions tend to be preferred for commercial goods, the end consumer as a rule uses dilute compositions which have substantially lower concentrations of active ingredient. Preferred compositions are composed in particular as follows (% = percent by weight):

Emulsifiable concentrates:

active ingredient:	1 to 95%, preferably 5 to 20%
surfactant:	1 to 30%, preferably 10 to 20 %
solvent:	5 to 98%, preferably 70 to 85%

Dusts:

active ingredient:	0.1 to 10%, preferably 0.1 to 1%
solid carrier:	99.9 to 90%, preferably 99.9 to 99%

Suspension concentrates:

active ingredient:	5 to 75%, preferably 10 to 50%
water:	94 to 24%, preferably 88 to 30%
surfactant:	1 to 40%, preferably 2 to 30%

Wettable powders:

active ingredient:	0.5 to 90%, preferably 1 to 80%
surfactant:	0.5 to 20%, preferably 1 to 15%
solid carrier:	5 to 99%, preferably 15 to 98%

Granulates:

active ingredient:	0.5 to 30%, preferably 3 to 15%
solid carrier:	99.5 to 70%, preferably 97 to 85%

The compositions can also comprise further solid or liquid auxiliaries, such as stabilizers, for example unepoxidized or epoxidized vegetable oils (for example epoxidized coconut oil, rapeseed oil or soya oil), antifoams, for example silicone oil, preservatives, viscosity regulators, binders and/or tackifiers, fertilizers or other active ingredients for achieving specific effects, for example bactericides, fungicides, nematocides, plant activators, molluscicides or herbicides.

The compositions according to the invention are prepared in a manner known per se, in the absence of auxiliaries for example by grinding, screening and/or compressing a solid active ingredient and in the presence of at least one auxiliary for example by intimately mixing and/or grinding the active ingredient with the auxiliary (auxiliaries). These processes for the preparation of the compositions and the use of the compounds I for the preparation of these compositions are also a subject of the invention.

The application methods for the compositions, that is the methods of controlling pests of the abovementioned type, such as spraying, atomizing, dusting, brushing on, dressing, scattering or pouring - which are to be selected to suit the intended aims of the prevailing circum-

stances - and the use of the compositions for controlling pests of the abovementioned type are other subjects of the invention. Typical rates of concentration are between 0.1 and 1000 ppm, preferably between 0.1 and 500 ppm, of active ingredient. The rate of application per hectare is generally 1 to 2000 g of active ingredient per hectare, in particular 10 to 1000 g/ha, preferably 10 to 600 g/ha.

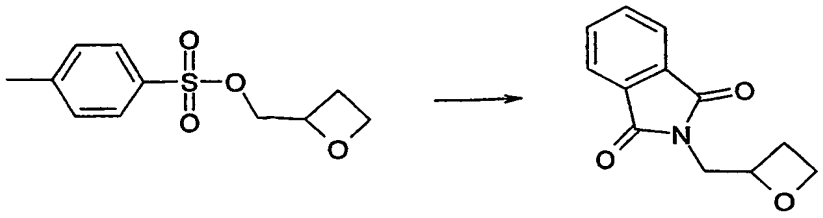
A preferred method of application in the field of crop protection is application to the foliage of the plants (foliar application), it being possible to select frequency and rate of application to match the danger of infestation with the pest in question. Alternatively, the active ingredient can reach the plants via the root system (systemic action), by drenching the locus of the plants with a liquid composition or by incorporating the active ingredient in solid form into the locus of the plants, for example into the soil, for example in the form of granules (soil application). In the case of paddy rice crops, such granules can be metered into the flooded paddy-field.

The compositions according to the invention are also suitable for the protection of plant propagation material, for example seeds, such as fruit, tubers or kernels, or nursery plants, against pests of the abovementioned type. The propagation material can be treated with the compositions prior to planting, for example seed can be treated prior to sowing. Alternatively, the compositions can be applied to seed kernels (coating), either by soaking the kernels in a liquid composition or by applying a layer of a solid composition. It is also possible to apply the compositions when the propagation material is planted to the site of application, for example into the seed furrow during drilling. These treatment methods for plant propagation material and the plant propagation material thus treated are further subjects of the invention.

Preparation examples

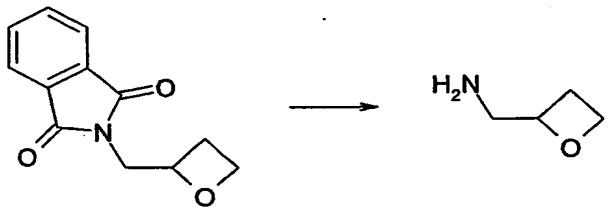
Example H1: Preparation of *N*-(4-chloro-2-methyl-6-[([oxetan-2-ylmethyl]amino)carbonyl]phenyl)-1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1*H*-pyrazole-5-carboxamide (compound P25):

Step 1: Preparation of 2-(phtalimidomethyl)oxetane:



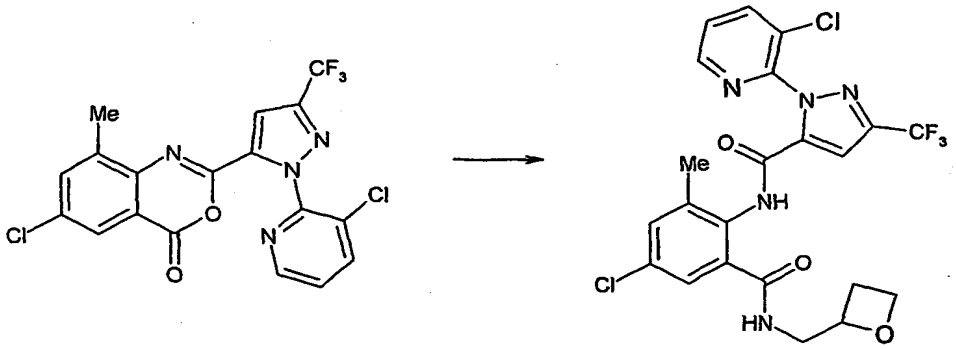
A solution of 2-(tosyloxymethyl)oxetane (27g, 111.4 mmol) (prepared according to A.O. Fitton et al., Synthesis 1987, (12), 1140-2) and potassium phtalimide (20.64g, 111.4 mmol) in DMF (200ml) is stirred at a temperature of 120°C for 18hours, then evaporated in vacuo. The residue is taken up in ethyl acetate, the organic layer washed with water and brine, dried (Na2SO4), filtered, and evaporated to dryness. The crude solid product (19.8 g, 82%) is used in the next step without further purification.

Step 2: Preparation of 2-aminomethyloxetane:



To a solution of 2-(phtalimidomethyl)oxetane (the product of step 1) (19 g, 87.5 mmol) in ethanol (250 ml) is added hydrazine hydrate (6.56 g, 131.2 mmol) and the reaction mixture is heated to reflux for 30 minutes. The resulting precipitates are filtered off, a small amount of Raney Ni (W-2) added to the filtrate, and the mixture further refluxed for 1.5 hours. The inorganic materials are filtered off, and the filtrate was concentrated carefully under reduced pressure. The residue is distilled in vacuo to give a colorless liquid (3.63 g, ~47%), b.p. 55-60°C/30 mbar. Contaminated with ethanol and DMF, the product is used in the next step without further purification.

Step 3: Preparation of compound P25:



To a solution of 6-chloro-2-[1-(3-chloro-2-pyridinyl)-3-(trifluoromethyl)-1*H*-pyrazol-5-yl]-8-methyl-4*H*-3,1-benzoxazin-4-one (200 mg, 0.45 mmol) (prepared according to WO 02/48115, example 2D) in tetrahydrofurane (4 ml), is added 2-aminomethyloxetane (the product of step 2) (79 mg, 0.91 mmol), and the mixture is heated to reflux for 30 minutes. The solution is allowed to cool to ambient temperature and the solvent evaporated in vacuo. The residue is purified by prep. HPLC (hexane/ethyl acetate gradient on LiChrospher Si 60, Merck NW25 column) to afford 180 mg (71%) of the title compound as a white solid. [^{1}H-NMR ($CDCl_3$): 10.21 (s, 1H), 8.48 (d, 1H), 7.88 (d, 1H), 7.41 (m, 1H), 7.32 (s, 1H), 7.29 (m, 2H), 6.63 (m, 1H), 4.98 (m, 1H), 4.68 (m, 1H), 4.48 (m, 1H), 3.71 (m, 1H), 3.59 (m, 1H), 2.68 (m, 1H), 2.43 (m, 1H), 2.19 (s, 3H); MS (electrospray ES+): 528, 530 ($(M+H)^+$)].

Preparation of the intermediate bicyclopropyl-1ylamine:

93.2 ml (328 mmol) $Ti(OiPr)_4$ is added to a solution of 20 g (298 mmol) cyclopropane carbonitrile in 300 ml ether. The solution is cooled down to a temperature of –78°C and 199 ml (596 mmol) ethylmagnesium bromide solution (3 M in ether) is slowly added. After 10 min at –78°C, the slurry is allowed to warm up to ambient temperature and stirred for 1 hour. 84.6 g (595 mmol) $BF_3.OEt_2$ is added and the mixture is stirred at ambient temperature for 18 hours. To this mixture, 600 ml NaOH 2N is slowly added at a temperature of 0°C. The organic phase is separated and extracted with 600 ml HCl 2N. The water phase is evaporated and the residue is triturated in ether to afford 30.9 g (78%) of the title compound as an hydrochloride salt.

The compounds listed in the following Tables P, P' and A can be prepared analogous to the procedures described above (m.p. = melting point in °C): If no definition for substituent X is given, then p is 0, if X is a substituent, then p is 1. If no definition for substituent Y is given, then q is 0, if Y is a substituent, then q is 1. The group $C(CH_2CH_2)$ for the substituent A means cyclopropyl with two free valences:

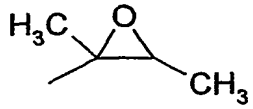
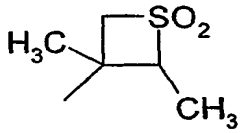
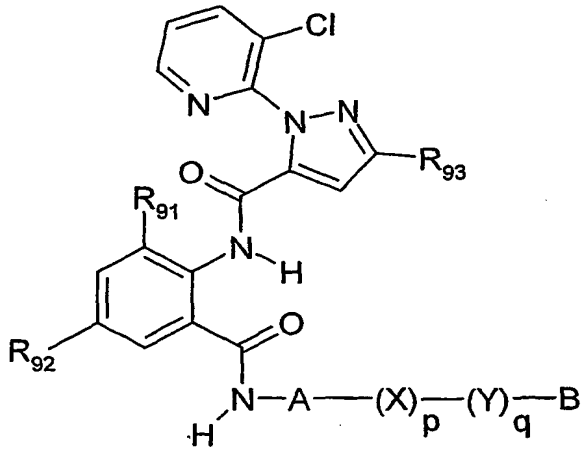
Designations for substituent B like $CH(CH_2O)$, $CH(CHMeO)$, $CH\text{-}(CMe_2O)$, $CH(CH_2S)$, $CH(CH_2OCH_2)$, $CH(CHMeOCH_2)$, $CH(CMe_2OCH_2)$, $CH(CH_2S\text{-}(O)_2CH_2)$, $CH(CHMeS(O)_2CH_2)$, $CH(CMe_2S(O)_2CH_2)$, $C(Me)\text{-}(CH_2O)$, $C(Me)\text{-}(CHMeO)$, $C(Me)\text{-}(CMe_2O)$, $C(Me)\text{-}(CH_2S)$, $C(Me)\text{-}(CH_2OCH_2)$, $C(Me)\text{-}(CH\text{-}MeOCH_2)$, $C(Me)\text{-}(CMe_2OCH_2)$, $C(Me)\text{-}(CH_2S(O)_2CH_2)$, $C(Me)\text{-}(CHMe\text{-}S(O)_2CH_2)$ or $C(Me)\text{-}(CMe_2\text{-}S(O)_2CH_2)$ define cyclic rings. For example, $CH(CH_2O)$ is  , $C(Me)\text{-}(CH\text{-}MeO)$ is  , and $C(Me)\text{-}(CHMe\text{-}S(O)_2CH_2)$ is  .

Table P: Compounds of formula Ia:



(Ia)

Cpd No.	R_{91}	R_{92}	R_{93}	A	X	Y	B	Phys. Data
P1	Me	Cl	CF_3	CH_2	-	-	cyclopropyl	MS (-ve) 510 $(M-1)^-$
P2	Me	Cl	CF_3	CHMe	-	-	cyclopropyl	MS (+ve) 525 (M^+) MS (-ve) 524 $(M-H)^-$
P3	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	cyclopropyl	MS (-ve) 536 $(M-H)^-$
P4	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	cyclobutyl	MS (-ve) 550 $(M-H)^-$
P5	Me	Cl	CF_3	CH_2	-	-	2,2-dichloro-cyclopropyl	MS (-ve) 580 $(M-H)^-$
P6	Me	Cl	CF_3	CH_2	-	-	1-methyl-2,2-dichloro-cyclo-propyl	MS (-ve) 594 $(M-H)^-$
P7	Me	Cl	CF_3	CH_2	-	-	2,2-dibromo-cyclopropyl	MS (-ve) 668 $(M-H)^-$
P8	Me	Cl	CF_3	CH_2	-	-	1-methyl-2,2-dibromo-cyclo-propyl	MS (-ve) 682 $(M-H)^-$
P9	Me	Cl	CF_3	CH_2	-	-	2,2,3,3-tetrafluoro-cyclobutyl	MS (-ve) 597 $(M-H)^-$
P10	Me	Cl	Br	CH_2	-	-	cyclopropyl	218-220°C
P11	Me	Cl	Cl	CH_2	-	-	cyclopropyl	218-219°C
P12	Me	Cl	CF_3	CH_2	-	-	$C(SMe)-(CH_2CH_2CH_2)$	MS(ES+) 572/574 $(M+H)^+$
P13	Me	Cl	CF_3	CH_2	-	-	$C(S(O)Me)-(CH_2CH_2CH_2)$	223-224°C

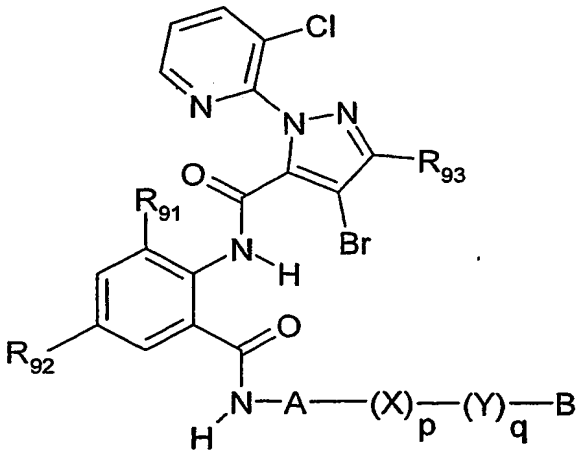
Cpd No.	R_{91}	R_{92}	R_{93}	A	X	Y	B	Phys. Data
P14	Me	Cl	CF_3	CH_2	-	-	$C(S(O)_2Me)$-$(CH_2CH_2CH_2)$	>250°C MS(ES+) 604/606 $(M+H)^+$
P15	Me	Cl	CF_3	CH_2	-	-	cyclobutyl	206-208°C
P16	Me	Cl	CF_3	CH_2	-	-	C(Me)-(CH_2OCH_2)	201-203°C
P17	Me	Cl	CF_3	CH_2	-	-	$CH(CMe_2(CH$-$CH=CMe_2))$	178-179°C
P18	Me	Cl	CF_3	CH_2	-	-	$C(CH_2OCH_3)$-(CH_2OCH_2)	190-192°C
P19	Me	Cl	CF_3	CH_2	-	-	$CH(CH_2O)$	MS(ES+) 514/516 $(M+H)^+$
P20	Me	Cl	CF_3	CHCOOMe	-	-	cyclopropyl	MS (ES-) 568 $(M-H)^-$
P21	Me	Cl	CF_3	CH_2	-	CH_2	$CH(CH_2$-$CFCl)$	154-156°C
P22	Me	Cl	CF_3	CH_2	-	CH_2	cyclopropyl	122-124°C
P23	Me	Cl	CF_3	CH_2	-	-	C(Me)-(CH_2CH_2)	208-210°C
P24	Me	Cl	CF_3	CH_2	-	-	$CH(CH_2$-$CMe_2)$	MS(ES+) 540/542 $(M+H)^+$
P25	Me	Cl	CF_3	CH_2	-	-	$CH(CH_2CH_2O)$	MS(ES+) 528/530 $(M+H)^+$
P26	Me	Cl	CF_3	CH_2	-	-	$C(S(O)(NCOCF_3)$ Me)-$(CH_2CH_2CH_2)$	MS(ES+) 699/701 $(M+H)^+$
P27	Me	Cl	CF_3	CH_2	-	-	C(S(O)(NH)Me)-	MS(ES+)

Cpd No.	R_{91}	R_{92}	R_{93}	A	X	Y	B	Phys. Data
							$(CH_2CH_2CH_2)$	603/605 $(M+H)^+$
P28	Me	Cl	CF_3	CH_2	-	-	$CH(CMe_2CMe_2)$	206-208°C
P29	Me	Cl	CF_3	CH_2	-	-	$C(SMe)-(CH_2CH_2)$	214-215°C
P30	Me	Cl	CF_3	CH_2	-	-	$C(S(O)_2Me)-(CH_2CH_2)$	212-214°C
P31	Me	Cl	CF_3	CH_2	-	-	$C(CF_3)-(CH_2CH_2)$	198-200°C
P32	Me	Cl	CF_3	CH_2	-	-	$CH(CH_2-CFCl)$	228-229°C
P33	Me	Cl	CF_3	CH_2	-	-	$C(S(O)Me)-(CH_2CH_2)$	212-214°C
P34	Me	Cl	CF_3	CH_2	-	-	$C(S(O)(NCOCF_3)Me)-(CH_2CH_2)$	210-212°C
P35	Me	Cl	CF_3	CH_2	-	-	$C(S(O)(NH)Me)-(CH_2CH_2)$	208-210°C
P36	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	$C(COOEt)-(CH_2CH_2)$	212-213°C
P37	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	$C(COOiPr)-(CH_2CH_2)$	215-217°C
P38	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	$CH(CH_2-CMe_2)$	MS(ES+) 566/568 $(M+H)^+$
P39	Cl	H	CF_3	CH_2	-	-	cyclopropyl	222-223°C
P40	Cl	H	CF_3	$C(CH_2CH_2)$	-	-	cyclopropyl	233-235°C
P41	Me	H	CF_3	CH_2	-	-	cyclopropyl	183-185°C
P42	Me	H	CF_3	$C(CH_2CH_2)$	-	-	cyclopropyl	232-233°C
P43	Me	Cl	CF_3	CMe_2	-	-	cyclopropyl	248-249°C

Cpd No.	R_{91}	R_{92}	R_{93}	A	X	Y	B	Phys. Data
P44	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	$C(Me)-(CH_2CH_2)$	MS(ES+) 552/554 $(M+H)^+$
P45	Me	2-pyridyl	CF_3	CH_2	-	-	cyclopropyl	220-221°C
P46	Me	Cl	OCH_2CF_3	CH_2	-	-	cyclopropyl	174-176°C
P47	Me	2-pyridyl	CF_3	$C(CH_2CH_2)$	-	-	cyclopropyl	224-225°C
P48	Me	Cl	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclopropyl	168-170°C
P49	Me	3-pyridyl	CF_3	CH_2	-	-	cyclopropyl	214-215°C
P50	Me	Cl	Cl	$C(CH_2CH_2)$	-	-	cyclopropyl	222-225°C
P51	Me	Cl	Br	$C(CH_2CH_2)$	-	-	cyclopropyl	229-232°C
P52	Me	NH_2	CF_3	$C(CH_2CH_2)$	-	-	cyclopropyl	252-254°C
P53	Me	NH_2	CF_3	CH_2	-	-	cyclopropyl	232-234°C
P54	Me	I	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclopropyl	235-236°C
P55	Me	Br	CF_3	CH_2	-	-	cyclopropyl	180-185°C
P56	Me	Br	Cl	CH_2	-	-	cyclopropyl	215-224°C
P57	Me	Br	CF_3	$C(CH_2CH_2)$	-	-	cyclopropyl	135-139°C
P58	Me	Br	Br	CH_2	-	-	cyclopropyl	220-225°C
P59	Me	Br	Cl	$C(CH_2CH_2)$	-	-	cyclopropyl	178-182°C
P60	Me	NO_2	CF_3	CH_2			cyclopropyl	195-199°C

Cpd No.	R_{91}	R_{92}	R_{93}	A	X	Y	B	Phys. Data
P61	Me	NO_2	CF_3	$C(CH_2CH_2)$			cyclopropyl	215-217°C
P62	Me	NO_2	Br	$C(CH_2CH_2)$			cyclopropyl	209-215°C
P63	Me	NO_2	Cl	$C(CH_2CH_2)$			cyclopropyl	213-216°C
P64	Me	NO_2	OCH_2CF_3	$C(CH_2CH_2)$			cyclopropyl	218-221°C
P65	Me	Cl	CF_3	CH_2	-	-	cyclobutyl	MS (ES+) 526 (MH^+) MS (ES-) 524 $(M-H)^-$
P66	Me	Cl	CF_3	CHMe	-	-	cyclobutyl	MS (ES+) 540 (MH^+) MS (ES-) 538 $(M-H)^-$
P67	Me	Cl	CF_3	$CH(CH_2)C$	-	-	$C(CH_2)_2$	157-163°C
P68	Me	Cl	CF_3	$CH(CH_2)C$	-	-	$C(CH_2)_3$	143-145°C

Table P': Compounds of formula Ia':

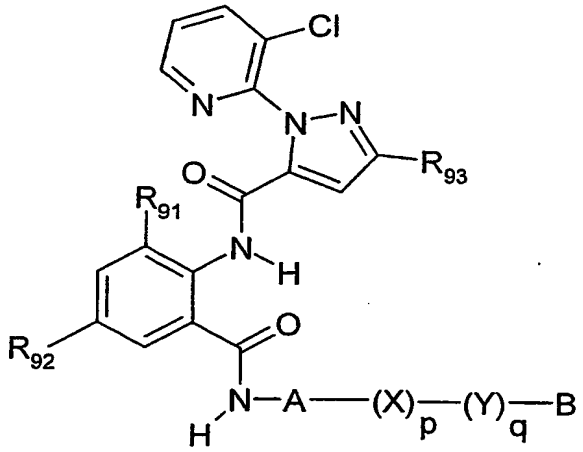


(Ia')

Cpd No.	R_{91}	R_{92}	R_{93}	A	X	Y	B	Phys. Data
P69	Me	Cl	OCH_2CF_3	CH_2	-	-	cyclopropyl	174-181°C
P70	Me	Cl	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclopropyl	150-154°C
P71	Me	I	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclopropyl	180-184°C
P72	Me	I	OCH_2CF_3	CH_2	-	-	cyclopropyl	205-211 °C

The examples which follow are intended to illustrate the invention and show preferred compounds of formula I. Me means the methyl group. Et means the ethyl group. tBu is tert.-butyl. If no definition for substituent X is given, then p is 0, if X is a substituent, then p is 1. If no definition for substituent Y is given, then q is 0, if Y is a substituent, then q is 1.

Table A: Compounds of formula Ia:



(Ia)

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.1	Me	Br	CF_3	CH_2	-	-	cyclo-propyl
A.1.2	Me	Br	CF_3	CHMe	-	-	cyclo-propyl
A.1.3	Me	Br	CF_3	CMe_2	-	-	cyclo-propyl
A.1.4	Me	Br	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.5	Me	F	CF_3	CH_2	-	-	cyclo-propyl
A.1.6	Me	F	CF_3	CHMe	-	-	cyclo-propyl
A.1.7	Me	F	CF_3	CMe_2	-	-	cyclo-propyl
A.1.8	Me	F	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.9	Me	I	CF_3	CH_2	-	-	cyclo-propyl
A.1.10	Me	I	CF_3	CHMe	-	-	cyclo-propyl
A.1.11	Me	I	CF_3	CMe_2	-	-	cyclo-propyl
A.1.12	Me	I	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.13	Cl	Cl	CF_3	CH_2	-	-	cyclo-propyl
A.1.14	Cl	Cl	CF_3	CHMe	-	-	cyclo-propyl
A.1.15	Cl	Cl	CF_3	CMe_2	-	-	cyclo-propyl
A.1.16	Cl	Cl	CF_3	$C(CH_2CH_2)$	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.17	Cl	Br	CF_3	CH_2	-	-	cyclo-propyl
A.1.18	Cl	Br	CF_3	CHMe	-	-	cyclo-propyl
A.1.19	Cl	Br	CF_3	CMe_2	-	-	cyclo-propyl
A.1.20	Cl	Br	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.21	Cl	F	CF_3	CH_2	-	-	cyclo-propyl
A.1.22	Cl	F	CF_3	CHMe	-	-	cyclo-propyl
A.1.23	Cl	F	CF_3	CMe_2	-	-	cyclo-propyl
A.1.24	Cl	F	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.25	Cl	I	CF_3	CH_2	-	-	cyclo-propyl
A.1.26	Cl	I	CF_3	CHMe	-	-	cyclo-propyl
A.1.27	Cl	I	CF_3	CMe_2	-	-	cyclo-propyl
A.1.28	Cl	I	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.29	Br	Cl	CF_3	CH_2	-	-	cyclo-propyl
A.1.30	Br	Cl	CF_3	CHMe	-	-	cyclo-propyl
A.1.31	Br	Cl	CF_3	CMe_2	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.32	Br	Cl	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.33	Br	Br	CF_3	CH_2	-	-	cyclo-propyl
A.1.34	Br	Br	CF_3	CHMe	-	-	cyclo-propyl
A.1.35	Br	Br	CF_3	CMe_2	-	-	cyclo-propyl
A.1.36	Br	Br	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.37	Br	F	CF_3	CH_2	-	-	cyclo-propyl
A.1.38	Br	F	CF_3	CHMe	-	-	cyclo-propyl
A.1.39	Br	F	CF_3	CMe_2	-	-	cyclo-propyl
A.1.40	Br	F	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.41	Br	I	CF_3	CH_2	-	-	cyclo-propyl
A.1.42	Br	I	CF_3	CHMe	-	-	cyclo-propyl
A.1.43	Br	I	CF_3	CMe_2	-	-	cyclo-propyl
A.1.44	Br	I	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.45	Me	Cl	Cl	CH_2	-	-	cyclo-propyl
A.1.46	Me	Cl	Cl	CHMe	-	-	cyclo-propyl
A.1.47	Me	Cl	Cl	CMe_2	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.48	Me	Cl	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.49	Me	Br	Cl	CH_2	-	-	cyclo-propyl
A.1.50	Me	Br	Cl	CHMe	-	-	cyclo-propyl
A.1.51	Me	Br	Cl	CMe_2	-	-	cyclo-propyl
A.1.52	Me	Br	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.53	Me	F	Cl	CH_2	-	-	cyclo-propyl
A.1.54	Me	F	Cl	CHMe	-	-	cyclo-propyl
A.1.55	Me	F	Cl	CMe_2	-	-	cyclo-propyl
A.1.56	Me	F	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.57	Me	I	Cl	CH_2	-	-	cyclo-propyl
A.1.58	Me	I	Cl	CHMe	-	-	cyclo-propyl
A.1.59	Me	I	Cl	CMe_2	-	-	cyclo-propyl
A.1.60	Me	I	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.61	Cl	Cl	Cl	CH_2	-	-	cyclo-propyl
A.1.62	Cl	Cl	Cl	CHMe	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.63	Cl	Cl	Cl	CMe_2	-	-	cyclo-propyl
A.1.64	Cl	Cl	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.65	Cl	Br	Cl	CH_2	-	-	cyclo-propyl
A.1.66	Cl	Br	Cl	CHMe	-	-	cyclo-propyl
A.1.67	Cl	Br	Cl	CMe_2	-	-	cyclo-propyl
A.1.68	Cl	Br	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.69	Cl	F	Cl	CH_2	-	-	cyclo-propyl
A.1.70	Cl	F	Cl	CHMe	-	-	cyclo-propyl
A.1.71	Cl	F	Cl	CMe_2	-	-	cyclo-propyl
A.1.72	Cl	F	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.73	Cl	I	Cl	CH_2	-	-	cyclo-propyl
A.1.74	Cl	I	Cl	CHMe	-	-	cyclo-propyl
A.1.75	Cl	I	Cl	CMe_2	-	-	cyclo-propyl
A.1.76	Cl	I	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.77	Br	Cl	Cl	CH_2	-	-	cyclo-propyl
A.1.78	Br	Cl	Cl	CHMe	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.79	Br	Cl	Cl	CMe_2	-	-	cyclo-propyl
A.1.80	Br	Cl	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.81	Br	Br	Cl	CH_2	-	-	cyclo-propyl
A.1.82	Br	Br	Cl	CHMe	-	-	cyclo-propyl
A.1.83	Br	Br	Cl	CMe_2	-	-	cyclo-propyl
A.1.84	Br	Br	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.85	Br	F	Cl	CH_2	-	-	cyclo-propyl
A.1.86	Br	F	Cl	CHMe	-	-	cyclo-propyl
A.1.87	Br	F	Cl	CMe_2	-	-	cyclo-propyl
A.1.88	Br	F	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.89	Br	I	Cl	CH_2	-	-	cyclo-propyl
A.1.90	Br	I	Cl	CHMe	-	-	cyclo-propyl
A.1.91	Br	I	Cl	CMe_2	-	-	cyclo-propyl
A.1.92	Br	I	Cl	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.93	Me	Cl	Br	CH_2	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.94	Me	Cl	Br	CHMe	-	-	cyclo-propyl
A.1.95	Me	Cl	Br	CMe_2	-	-	cyclo-propyl
A.1.96	Me	Cl	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.97	Me	Br	Br	CH_2	-	-	cyclo-propyl
A.1.98	Me	Br	Br	CHMe	-	-	cyclo-propyl
A.1.99	Me	Br	Br	CMe_2	-	-	cyclo-propyl
A.1.100	Me	Br	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.101	Me	F	Br	CH_2	-	-	cyclo-propyl
A.1.102	Me	F	Br	CHMe	-	-	cyclo-propyl
A.1.103	Me	F	Br	CMe_2	-	-	cyclo-propyl
A.1.104	Me	F	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.105	Me	I	Br	CH_2	-	-	cyclo-propyl
A.1.106	Me	I	Br	CHMe	-	-	cyclo-propyl
A.1.107	Me	I	Br	CMe_2	-	-	cyclo-propyl
A.1.108	Me	I	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.109	Cl	Cl	Br	CH_2	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.110	Cl	Cl	Br	CHMe	-	-	cyclo-propyl
A.1.111	Cl	Cl	Br	CMe_2	-	-	cyclo-propyl
A.1.112	Cl	Cl	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.113	Cl	Br	Br	CH_2	-	-	cyclo-propyl
A.1.114	Cl	Br	Br	CHMe	-	-	cyclo-propyl
A.1.115	Cl	Br	Br	CMe_2	-	-	cyclo-propyl
A.1.116	Cl	Br	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.117	Cl	F	Br	CH_2	-	-	cyclo-propyl
A.1.118	Cl	F	Br	CHMe	-	-	cyclo-propyl
A.1.119	Cl	F	Br	CMe_2	-	-	cyclo-propyl
A.1.120	Cl	F	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.121	Cl	I	Br	CH_2	-	-	cyclo-propyl
A.1.122	Cl	I	Br	CHMe	-	-	cyclo-propyl
A.1.123	Cl	I	Br	CMe_2	-	-	cyclo-propyl
A.1.124	Cl	I	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.125	Br	Cl	Br	CH_2	-	-	cyclo-propyl
A.1.126	Br	Cl	Br	CHMe	-	-	cyclo-propyl
A.1.127	Br	Cl	Br	CMe_2	-	-	cyclo-propyl
A.1.128	Br	Cl	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.129	Br	Br	Br	CH_2	-	-	cyclo-propyl
A.1.130	Br	Br	Br	CHMe	-	-	cyclo-propyl
A.1.131	Br	Br	Br	CMe_2	-	-	cyclo-propyl
A.1.132	Br	Br	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.133	Br	F	Br	CH_2	-	-	cyclo-propyl
A.1.134	Br	F	Br	CHMe	-	-	cyclo-propyl
A.1.135	Br	F	Br	CMe_2	-	-	cyclo-propyl
A.1.136	Br	F	Br	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.137	Br	I	Br	CH_2	-	-	cyclo-propyl
A.1.138	Br	I	Br	CHMe	-	-	cyclo-propyl
A.1.139	Br	I	Br	CMe_2	-	-	cyclo-propyl
A.1.140	Br	I	Br	$C(CH_2CH_2)$	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.141	Me	Cl	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.142	Me	Cl	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.143	Me	Cl	$OCHF_2$	CMe_2	-	-	cyclo-propyl
A.1.144	Me	Cl	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.145	Me	Br	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.146	Me	Br	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.147	Me	Br	$OCHF_2$	CMe_2	-	-	cyclo-propyl
A.1.148	Me	Br	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.149	Me	F	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.150	Me	F	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.151	Me	F	$OCHF_2$	CMe_2	-	-	cyclo-propyl
A.1.152	Me	F	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.153	Me	I	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.154	Me	I	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.155	Me	I	$OCHF_2$	CMe_2	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.156	Me	I	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.157	Cl	Cl	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.158	Cl	Cl	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.159	Cl	Cl	$OCHF_2$	CMe_2	-	-	cyclo-propyl
A.1.160	Cl	Cl	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.161	Cl	Br	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.162	Cl	Br	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.163	Cl	Br	$OCHF_2$	CMe_2	-	-	cyclo-propyl
A.1.164	Cl	Br	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.165	Cl	F	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.166	Cl	F	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.167	Cl	F	$OCHF_2$	CMe_2	-	-	cyclo-propyl
A.1.168	Cl	F	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.169	Cl	I	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.170	Cl	I	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.171	Cl	I	$OCHF_2$	CMe_2	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.172	Cl	I	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.173	Br	Cl	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.174	Br	Cl	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.175	Br	Cl	$OCHF_2$	CMe_2	-	-	cyclo-propyl
A.1.176	Br	Cl	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.177	Br	Br	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.178	Br	Br	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.179	Br	Br	$OCHF_2$	CMe_2	-	-	cyclo-propyl
A.1.180	Br	Br	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.181	Br	F	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.182	Br	F	$OCHF_2$	CHMe	-	-	cyclo-propyl
A.1.183	Br	F	$OCHF_2$	CMe_2	-	-	cyclo-propyl
A.1.184	Br	F	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.185	Br	I	$OCHF_2$	CH_2	-	-	cyclo-propyl
A.1.186	Br	I	$OCHF_2$	CHMe	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.187	Br	I	$OCHF_2$	CMe_2	-	-	cyclo-propyl
A.1.188	Br	I	$OCHF_2$	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.189	Me	Cl	OCH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.190	Me	Cl	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.191	Me	Cl	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.192	Me	Cl	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.193	Me	Br	OCH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.194	Me	Br	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.195	Me	Br	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.196	Me	Br	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.197	Me	F	OCH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.198	Me	F	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.199	Me	F	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.200	Me	F	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.201	Me	I	OCH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.202	Me	I	OCH_2CF_3	CHMe	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.203	Me	I	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.204	Me	I	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.205	Cl	Cl	OCH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.206	Cl	Cl	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.207	Cl	Cl	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.208	Cl	Cl	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.209	Cl	Br	OCH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.210	Cl	Br	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.211	Cl	Br	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.212	Cl	Br	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.213	Cl	F	OCH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.214	Cl	F	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.215	Cl	F	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.216	Cl	F	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.217	Cl	I	OCH_2CF_3	CH_2	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.218	Cl	I	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.219	Cl	I	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.220	Cl	I	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.221	Br	Cl	OCH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.222	Br	Cl	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.223	Br	Cl	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.224	Br	Cl	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.225	Br	Br	OCH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.226	Br	Br	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.227	Br	Br	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.228	Br	Br	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.229	Br	F	OCH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.230	Br	F	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.231	Br	F	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.232	Br	F	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.233	Br	I	OCH_2CF_3	CH_2	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.234	Br	I	OCH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.235	Br	I	OCH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.236	Br	I	OCH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.237	Me	Cl	CHF_2	CH_2	-	-	cyclo-propyl
A.1.238	Me	Cl	CHF_2	CHMe	-	-	cyclo-propyl
A.1.239	Me	Cl	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.240	Me	Cl	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.241	Me	Br	CHF_2	CH_2	-	-	cyclo-propyl
A.1.242	Me	Br	CHF_2	CHMe	-	-	cyclo-propyl
A.1.243	Me	Br	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.244	Me	Br	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.245	Me	F	CHF_2	CH_2	-	-	cyclo-propyl
A.1.246	Me	F	CHF_2	CHMe	-	-	cyclo-propyl
A.1.247	Me	F	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.248	Me	F	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.249	Me	I	CHF_2	CH_2	-	-	cyclo-propyl
A.1.250	Me	I	CHF_2	CHMe	-	-	cyclo-propyl
A.1.251	Me	I	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.252	Me	I	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.253	Cl	Cl	CHF_2	CH_2	-	-	cyclo-propyl
A.1.254	Cl	Cl	CHF_2	CHMe	-	-	cyclo-propyl
A.1.255	Cl	Cl	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.256	Cl	Cl	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.257	Cl	Br	CHF_2	CH_2	-	-	cyclo-propyl
A.1.258	Cl	Br	CHF_2	CHMe	-	-	cyclo-propyl
A.1.259	Cl	Br	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.260	Cl	Br	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.261	Cl	F	CHF_2	CH_2	-	-	cyclo-propyl
A.1.262	Cl	F	CHF_2	CHMe	-	-	cyclo-propyl
A.1.263	Cl	F	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.264	Cl	F	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.265	Cl	I	CHF_2	CH_2	-	-	cyclo-propyl
A.1.266	Cl	I	CHF_2	CHMe	-	-	cyclo-propyl
A.1.267	Cl	I	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.268	Cl	I	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.269	Br	Cl	CHF_2	CH_2	-	-	cyclo-propyl
A.1.270	Br	Cl	CHF_2	CHMe	-	-	cyclo-propyl
A.1.271	Br	Cl	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.272	Br	Cl	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.273	Br	Br	CHF_2	CH_2	-	-	cyclo-propyl
A.1.274	Br	Br	CHF_2	CHMe	-	-	cyclo-propyl
A.1.275	Br	Br	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.276	Br	Br	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.277	Br	F	CHF_2	CH_2	-	-	cyclo-propyl
A.1.278	Br	F	CHF_2	CHMe	-	-	cyclo-propyl
A.1.279	Br	F	CHF_2	CMe_2	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.280	Br	F	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.281	Br	I	CHF_2	CH_2	-	-	cyclo-propyl
A.1.282	Br	I	CHF_2	CHMe	-	-	cyclo-propyl
A.1.283	Br	I	CHF_2	CMe_2	-	-	cyclo-propyl
A.1.284	Br	I	CHF_2	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.285	Me	Cl	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.286	Me	Cl	CH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.287	Me	Cl	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.288	Me	Cl	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.289	Me	Br	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.290	Me	Br	CH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.291	Me	Br	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.292	Me	Br	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.293	Me	F	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.294	Me	F	CH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.295	Me	F	CH_2CF_3	CMe_2	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.296	Me	F	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.297	Me	I	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.298	Me	I	CH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.299	Me	I	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.300	Me	I	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.301	Cl	Cl	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.302	Cl	Cl	CH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.303	Cl	Cl	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.304	Cl	Cl	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.305	Cl	Br	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.306	Cl	Br	CH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.307	Cl	Br	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.308	Cl	Br	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.309	Cl	F	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.310	Cl	F	CH_2CF_3	CHMe	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.311	Cl	F	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.312	Cl	F	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.313	Cl	I	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.314	Cl	I	CH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.315	Cl	I	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.316	Cl	I	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.317	Br	Cl	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.318	Br	Cl	CH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.319	Br	Cl	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.320	Br	Cl	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.321	Br	Br	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.322	Br	Br	CH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.323	Br	Br	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.324	Br	Br	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.325	Br	F	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.326	Br	F	CH_2CF_3	CHMe	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.327	Br	F	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.328	Br	F	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.329	Br	I	CH_2CF_3	CH_2	-	-	cyclo-propyl
A.1.330	Br	I	CH_2CF_3	CHMe	-	-	cyclo-propyl
A.1.331	Br	I	CH_2CF_3	CMe_2	-	-	cyclo-propyl
A.1.332	Br	I	CH_2CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.333	Me	Cl	CF_3	CH_2	-	-	cyclo-propyl
A.1.334	Me	Cl	CF_3	CHMe	-	-	cyclo-propyl
A.1.335	Me	Cl	CF_3	$CHCF_3$	-	-	cyclo-propyl
A.1.336	Me	Cl	CF_3	CHEt	-	-	cyclo-propyl
A.1.337	Me	Cl	CF_3	CH(cyclo-propyl)	-	-	cyclo-propyl
A.1.338	Me	Cl	CF_3	CHnPr	-	-	cyclo-propyl
A.1.339	Me	Cl	CF_3	CHtBu	-	-	cyclo-propyl
A.1.340	Me	Cl	CF_3	$CH(CH=CH_2)$	-	-	cyclo-propyl
A.1.341	Me	Cl	CF_3	CH(CH=CH-Me)	-	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.342	Me	Cl	CF_3	$CH(CMe=CH_2)$	-	-	cyclo-propyl
A.1.343	Me	Cl	CF_3	$CH(CH_2CH=CH_2)$	-	-	cyclo-propyl
A.1.344	Me	Cl	CF_3	CH(C=CH)	-	-	cyclo-propyl
A.1.345	Me	Cl	CF_3	CMe_2	-	-	cyclo-propyl
A.1.346	Me	Cl	CF_3	CHCN	-	-	cyclo-propyl
A.1.347	Me	Cl	CF_3	$CH(CH_2SMe)$	-	-	cyclo-propyl
A.1.348	Me	Cl	CF_3	$CH(CH_2S(O)_2Me)$	-	-	cyclo-propyl
A.1.349	Me	Cl	CF_3	$CH(CH_2OMe)$	-	-	cyclo-propyl
A.1.350	Me	Cl	CF_3	$CH(CH_2Cl)$	-	-	cyclo-propyl
A.1.351	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	cyclo-propyl
A.1.352	Me	Cl	CF_3	$C(CH_2CHF)$	-	-	cyclo-propyl
A.1.353	Me	Cl	CF_3	$C(CH_2CF_2)$	-	-	cyclo-propyl
A.1.354	Me	Cl	CF_3	$C(CH_2CHCl)$	-	-	cyclo-propyl
A.1.355	Me	Cl	CF_3	$C(CH_2CFCl)$	-	-	cyclo-propyl
A.1.356	Me	Cl	CF_3	$C(CH_2CCl_2)$	-	-	cyclo-propyl
A.1.357	Me	Cl	CF_3	$C(CH_2CHBr)$	-	-	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.358	Me	Cl	CF_3	$C(CH_2CBr_2)$	-	-	cyclo-propyl
A.1.359	Me	Cl	CF_3	$C(CH_2CHMe)$	-	-	cyclo-propyl
A.1.360	Me	Cl	CF_3	$C(CH_2CMe_2)$	-	-	cyclo-propyl
A.1.361	Me	Cl	CF_3	$C(CH_2CHEt)$	-	-	cyclo-propyl
A.1.362	Me	Cl	CF_3	$C(CH_2CEt_2)$	-	-	cyclo-propyl
A.1.363	Me	Cl	CF_3	CH_2CH_2	-	-	cyclo-propyl
A.1.364	Me	Cl	CF_3	CH=CH	-	-	cyclo-propyl
A.1.365	Me	Cl	CF_3	$CHMeCH_2$	-	-	cyclo-propyl
A.1.366	Me	Cl	CF_3	$C(CH_2OCH_2)$	-	-	cyclo-propyl
A.1.367	Me	Cl	CF_3	$C(CH_2S(O)_2-CH_2)$	-	-	cyclo-propyl
A.1.368	Me	Cl	CF_3	CH_2	O	-	cyclo-propyl
A.1.369	Me	Cl	CF_3	CHMe	O	-	cyclo-propyl
A.1.370	Me	Cl	CF_3	CMe_2	O	-	cyclo-propyl
A.1.371	Me	Cl	CF_3	$C(CH_2CH_2)$	O	-	cyclo-propyl
A.1.372	Me	Cl	CF_3	CHMe	N-iso-propyl	-	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.373	Me	Cl	CF_3	CMe_2	N-iso-butyl	-	cyclo-propyl
A.1.374	Me	Cl	CF_3	CH_2	NH	-	cyclo-propyl
A.1.375	Me	Cl	CF_3	CHMe	NMe	-	cyclo-propyl
A.1.376	Me	Cl	CF_3	CMe_2	NEt	-	cyclo-propyl
A.1.377	Me	Cl	CF_3	CH_2	O	CH_2	cyclo-propyl
A.1.378	Me	Cl	CF_3	CHMe	O	CH_2	cyclo-propyl
A.1.379	Me	Cl	CF_3	CMe_2	O	CH_2	cyclo-propyl
A.1.380	Me	Cl	CF_3	$C(CH_2CH_2)$	O	CH_2	cyclo-propyl
A.1.381	Me	Cl	CF_3	CHMe	S(O)	CH_2	cyclo-propyl
A.1.382	Me	Cl	CF_3	CMe_2	$S(O)_2$	CH_2	cyclo-propyl
A.1.383	Me	Cl	CF_3	CH_2	NH	CH_2	cyclo-propyl
A.1.384	Me	Cl	CF_3	CHMe	NMe	CH_2	cyclo-propyl
A.1.385	Me	Cl	CF_3	CMe_2	NEt	CH_2	cyclo-propyl
A.1.386	Me	Cl	CF_3	CH_2	O	CHMe	cyclo-propyl
A.1.387	Me	Cl	CF_3	CH_2	O	$CHCF_3$	cyclo-propyl
A.1.388	Me	Cl	CF_3	CH_2	O	CHEt	cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.389	Me	Cl	CF_3	CH_2	O	CH-(cyclo-propyl)	cyclo-propyl
A.1.390	Me	Cl	CF_3	CH_2	O	CHnPr	cyclo-propyl
A.1.391	Me	Cl	CF_3	CH_2	O	CHtBu	cyclo-propyl
A.1.392	Me	Cl	CF_3	CH_2	O	$CH(CH=CH_2)$	cyclo-propyl
A.1.393	Me	Cl	CF_3	CH_2	O	CH(CH=CHMe)	cyclo-propyl
A.1.394	Me	Cl	CF_3	CH_2	O	$CH-(CMe=CH_2)$	cyclo-propyl
A.1.395	Me	Cl	CF_3	CH_2	O	$CH(CH_2CH=CH_2)$	cyclo-propyl
A.1.396	Me	Cl	CF_3	CH_2	O	CH(C=CH)	cyclo-propyl
A.1.397	Me	Cl	CF_3	CH_2	O	CMe_2	cyclo-propyl
A.1.398	Me	Cl	CF_3	CH_2	O	CHCN	cyclo-propyl
A.1.399	Me	Cl	CF_3	CH_2	O	$CH(CH_2S-Me)$	cyclo-propyl
A.1.400	Me	Cl	CF_3	CH_2	O	$CH(CH_2S-(O)_2Me)$	cyclo-propyl
A.1.401	Me	Cl	CF_3	CH_2	O	$CH(CH_2O-Me)$	cyclo-propyl
A.1.402	Me	Cl	CF_3	CH_2	O	$CH(CH_2Cl)$	cyclo-propyl
A.1.403	Me	Cl	CF_3	CH_2	O	$C(CH_2CH_2)$	cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.404	Me	Cl	CF_3	CH_2	O	$C(CH_2CHF)$	cyclo-propyl
A.1.405	Me	Cl	CF_3	CH_2	O	$C(CH_2CF_2)$	cyclo-propyl
A.1.406	Me	Cl	CF_3	CH_2	O	$C(CH_2CHCl)$	cyclo-propyl
A.1.407	Me	Cl	CF_3	CH_2	O	$C(CH_2CFCl)$	cyclo-propyl
A.1.408	Me	Cl	CF_3	CH_2	O	$C(CH_2CCl_2)$	cyclo-propyl
A.1.409	Me	Cl	CF_3	CH_2	O	$C(CH_2CHBr)$	cyclo-propyl
A.1.410	Me	Cl	CF_3	CH_2	O	$C(CH_2CBr_2)$	cyclo-propyl
A.1.411	Me	Cl	CF_3	CH_2	O	$C(CH_2CHMe)$	cyclo-propyl
A.1.412	Me	Cl	CF_3	CH_2	O	$C(CH_2CMe_2)$	cyclo-propyl
A.1.413	Me	Cl	CF_3	CH_2	O	$C(CH_2CHEt)$	cyclo-propyl
A.1.414	Me	Cl	CF_3	CH_2	O	$C(CH_2C\text{-}Et_2)$	cyclo-propyl
A.1.415	Me	Cl	CF_3	CH_2	O	CH_2CH_2	cyclo-propyl
A.1.416	Me	Cl	CF_3	CH_2	O	CH=CH	cyclo-propyl
A.1.417	Me	Cl	CF_3	CH_2	O	$CHMeCH_2$	cyclo-propyl
A.1.418	Me	Cl	CF_3	CH_2	-	-	1-fluoro--cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.419	Me	Cl	CF_3	CH_2	-	-	1-chloro-cyclo-propyl
A.1.420	Me	Cl	CF_3	CH_2	-	-	1-bromo-cyclo-propyl
A.1.421	Me	Cl	CF_3	CH_2	-	-	1-methyl--cyclo-propyl
A.1.422	Me	Cl	CF_3	CH_2	-	-	1-ethyl-cyclo-propyl
A.1.423	Me	Cl	CF_3	CH_2	-	-	1-cyano-cyclo-propyl
A.1.424	Me	Cl	CF_3	CH_2	-	-	1-methyl--thiocyclo-propyl
A.1.425	Me	Cl	CF_3	CH_2	-	-	1-methoxy-cyclo-propyl
A.1.426	Me	Cl	CF_3	CH_2	-	-	1-hydroxy-cyclo-propyl
A.1.427	Me	Cl	CF_3	CH_2	-	-	1-trifluoro-methyl--cyclo-propyl
A.1.428	Me	Cl	CF_3	CH_2	-	-	2-fluoro-cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.429	Me	Cl	CF_3	CH_2	-	-	2,2-difluoro-cyclo-propyl
A.1.430	Me	Cl	CF_3	CH_2	-	-	2-chloro-cyclo-propyl
A.1.431	Me	Cl	CF_3	CH_2	-	-	2,2-dichloro-cyclo-propyl
A.1.432	Me	Cl	CF_3	CH_2	-	-	2-bromo-cyclo-propyl
A.1.433	Me	Cl	CF_3	CH_2	-	-	2,2-dibromo-cyclo-propyl
A.1.434	Me	Cl	CF_3	CH_2	-	-	2-chloro-2-fluoro-cyclo-propyl
A.1.435	Me	Cl	CF_3	CH_2	-	-	2-methyl--cyclo-propyl
A.1.436	Me	Cl	CF_3	CH_2	-	-	2,2-dimethyl--cyclo-propyl
A.1.437	Me	Cl	CF_3	CH_2	-	-	2-ethyl-cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.438	Me	Cl	CF_3	CH_2	-	-	2,2-diethyl-cyclo-propyl
A.1.439	Me	Cl	CF_3	CH_2	-	-	2-cyanocycl o-propyl
A.1.440	Me	Cl	CF_3	CH_2	-	-	2-methyl--thiocyclo-propyl
A.1.441	Me	Cl	CF_3	CH_2	-	-	2-methoxy-cyclo-propyl
A.1.442	Me	Cl	CF_3	CH_2	-	-	2-hydroxy-cyclo-propyl
A.1.443	Me	Cl	CF_3	CH_2	-	-	2-trifluoro-methyl--cyclo-propyl
A.1.444	Me	Cl	CF_3	CH_2	-	-	cyclo-butyl
A.1.445	Me	Cl	CF_3	CH_2	-	-	2-fluoro-cyclo-butyl
A.1.446	Me	Cl	CF_3	CH_2	-	-	2,2-difluoro-cyclo-butyl
A.1.447	Me	Cl	CF_3	CH_2	-	-	2-chloro-cyclo-butyl
A.1.448	Me	Cl	CF_3	CH_2	-	-	2,2-dichloro-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							cyclo-butyl
A.1.449	Me	Cl	CF_3	CH_2	-	-	2-bromo-cyclo-butyl
A.1.450	Me	Cl	CF_3	CH_2	-	-	2,2-dibromo-cyclo-butyl
A.1.451	Me	Cl	CF_3	CH_2	-	-	2-chloro-2-fluoro-cyclo-butyl
A.1.452	Me	Cl	CF_3	CH_2	-	-	2-methyl-cyclo-butyl
A.1.453	Me	Cl	CF_3	CH_2	-	-	2,2-dimethyl-cyclo-butyl
A.1.454	Me	Cl	CF_3	CH_2	-	-	2-ethyl-cyclo-butyl
A.1.455	Me	Cl	CF_3	CH_2	-	-	2,2-diethyl-cyclo-butyl
A.1.456	Me	Cl	CF_3	CH_2	-	-	2-cyano-cyclo-butyl
A.1.457	Me	Cl	CF_3	CH_2	-	-	2-methyl-thiocyclo-butyl
A.1.458	Me	Cl	CF_3	CH_2	-	-	2-methoxy-cyclo-butyl
A.1.459	Me	Cl	CF_3	CH_2	-	-	2-hydroxy-cyclo-butyl
A.1.460	Me	Cl	CF_3	CH_2	-	-	2-trifluoro-methyl-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							cyclo-butyl
A.1.461	Me	Cl	CF_3	CH_2	-	-	3-methyl-cyclo-butyl
A.1.462	Me	Cl	CF_3	CH_2	-	-	3,3-dimethyl-cyclo-butyl
A.1.463	Me	Cl	CF_3	CH_2	-	-	3-chloro-cyclo-butyl
A.1.464	Me	Cl	CF_3	CH_2	-	-	3,3-dichloro-cyclo-butyl
A.1.465	Me	Cl	CF_3	CHMe	-	-	1-fluoro-cyclo-propyl
A.1.466	Me	Cl	CF_3	CHMe	-	-	1-chlorocyclo-propyl
A.1.467	Me	Cl	CF_3	CHMe	-	-	1-bromo-cyclo-propyl
A.1.468	Me	Cl	CF_3	CHMe	-	-	1-methyl--cyclo-propyl
A.1.469	Me	Cl	CF_3	CHMe	-	-	1-ethyl-cyclo-propyl
A.1.470	Me	Cl	CF_3	CHMe	-	-	1-cyano-cyclo-propyl
A.1.471	Me	Cl	CF_3	CHMe	-	-	1-methyl--thiocyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.472	Me	Cl	CF_3	CHMe	-	-	1-methoxy-cyclo-propyl
A.1.473	Me	Cl	CF_3	CHMe	-	-	1-hydroxy-cyclo-propyl
A.1.474	Me	Cl	CF_3	CHMe	-	-	1-trifluoro-methyl-cyclo-propyl
A.1.475	Me	Cl	CF_3	CHMe	-	-	2-fluoro-cyclo-propyl
A.1.476	Me	Cl	CF_3	CHMe	-	-	2,2-difluoro-cyclo-propyl
A.1.477	Me	Cl	CF_3	CHMe	-	-	2-chloro-cyclo-propyl
A.1.478	Me	Cl	CF_3	CHMe	-	-	2,2-dichloro-cyclo-propyl
A.1.479	Me	Cl	CF_3	CHMe	-	-	2-bromo-cyclo-propyl
A.1.480	Me	Cl	CF_3	CHMe	-	-	2,2-dibromo-cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.481	Me	Cl	CF_3	CHMe	-	-	2-chloro-2-fluoro-cyclo-propyl
A.1.482	Me	Cl	CF_3	CHMe	-	-	2-methyl--cyclo-propyl
A.1.483	Me	Cl	CF_3	CHMe	-	-	2,2-dimethyl--cyclo-propyl
A.1.484	Me	Cl	CF_3	CHMe	-	-	2-ethyl-cyclo-propyl
A.1.485	Me	Cl	CF_3	CHMe	-	-	2,2-diethyl-cyclo-propyl
A.1.486	Me	Cl	CF_3	CHMe	-	-	2-cyano-cyclo-propyl
A.1.487	Me	Cl	CF_3	CHMe	-	-	2-methyl--thiocyclo-propyl
A.1.488	Me	Cl	CF_3	CHMe	-	-	2-methoxy-cyclo-propyl
A.1.489	Me	Cl	CF_3	CHMe	-	-	2-hydroxy-cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.490	Me	Cl	CF_3	CHMe	-	-	2-trifluoro-methyl--cyclo-propyl
A.1.491	Me	Cl	CF_3	CHMe	-	-	cyclo-butyl
A.1.492	Me	Cl	CF_3	CHMe	-	-	2-fluoro-cyclo-butyl
A.1.493	Me	Cl	CF_3	CHMe	-	-	2,2-difluoro-cyclo-butyl
A.1.494	Me	Cl	CF_3	CHMe	-	-	2-chlorocyclo-butyl
A.1.495	Me	Cl	CF_3	CHMe	-	-	2,2-dichloro-cyclo-butyl
A.1.496	Me	Cl	CF_3	CHMe	-	-	2-bromo-cyclo-butyl
A.1.497	Me	Cl	CF_3	CHMe	-	-	2,2-dibromo-cyclo-butyl
A.1.498	Me	Cl	CF_3	CHMe	-	-	2-chloro-2-fluoro-cyclo-butyl
A.1.499	Me	Cl	CF_3	CHMe	-	-	2-methyl--cyclo-butyl
A.1.500	Me	Cl	CF_3	CHMe	-	-	2,2-dimethyl--cyclo-butyl
A.1.501	Me	Cl	CF_3	CHMe	-	-	2-ethyl-cyclo-butyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.502	Me	Cl	CF_3	CHMe	-	-	2,2-diethyl-cyclo-butyl
A.1.503	Me	Cl	CF_3	CHMe	-	-	2-cyanocyclo-butyl
A.1.504	Me	Cl	CF_3	CHMe	-	-	2-methyl--thiocyclo-butyl
A.1.505	Me	Cl	CF_3	CHMe	-	-	2-methoxy-cyclo-butyl
A.1.506	Me	Cl	CF_3	CHMe	-	-	2-hydroxy-cyclo-butyl
A.1.507	Me	Cl	CF_3	CHMe	-	-	2-trifluoro-methyl-cyclo-butyl
A.1.508	Me	Cl	CF_3	CHMe	-	-	3-methyl--cyclo-butyl
A.1.509	Me	Cl	CF_3	CHMe	-	-	3,3-dimethyl--cyclo-butyl
A.1.510	Me	Cl	CF_3	CHMe	-	-	3-chloro-cyclo-butyl
A.1.511	Me	Cl	CF_3	CHMe	-	-	3,3-dichloro-cyclo-butyl
A.1.512	Me	Cl	CF_3	CMe_2	-	-	1-fluoro-cyclo-propyl
A.1.513	Me	Cl	CF_3	CMe_2	-	-	1-chloro-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							cyclo-propyl
A.1.514	Me	Cl	CF_3	CMe_2	-	-	1-bromo-cyclo-propyl
A.1.515	Me	Cl	CF_3	CMe_2	-	-	1-methyl--cyclo-propyl
A.1.516	Me	Cl	CF_3	CMe_2	-	-	1-ethyl-cyclo-propyl
A.1.517	Me	Cl	CF_3	CMe_2	-	-	1-cyano-cyclo-propyl
A.1.518	Me	Cl	CF_3	CMe_2	-	-	1-methyl--thiocyclo-propyl
A.1.519	Me	Cl	CF_3	CMe_2	-	-	1-methoxy-cyclo-propyl
A.1.520	Me	Cl	CF_3	CMe_2	-	-	1-hydroxy-cyclo-propyl
A.1.521	Me	Cl	CF_3	CMe_2	-	-	1-trifluoro-methyl-cyclo-propyl
A.1.522	Me	Cl	CF_3	CMe_2	-	-	2-fluoro-cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.523	Me	Cl	CF_3	CMe_2	-	-	2,2-difluoro-cyclo-propyl
A.1.524	Me	Cl	CF_3	CMe_2	-	-	2-chloro-cyclo-propyl
A.1.525	Me	Cl	CF_3	CMe_2	-	-	2,2-dichloro-cyclo-propyl
A.1.526	Me	Cl	CF_3	CMe_2	-	-	2-bromo-cyclo-propyl
A.1.527	Me	Cl	CF_3	CMe_2	-	-	2,2-dibromo-cyclo-propyl
A.1.528	Me	Cl	CF_3	CMe_2	-	-	2-chloro-2-fluoro-cyclo-propyl
A.1.529	Me	Cl	CF_3	CMe_2	-	-	2-methyl-cyclo-propyl
A.1.530	Me	Cl	CF_3	CMe_2	-	-	2,2-dimethyl-cyclo-propyl
A.1.531	Me	Cl	CF_3	CMe_2	-	-	2-ethyl-cyclo-propyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A.1.532	Me	Cl	CF_3	CMe_2	-	-	2,2-diethyl-cyclo-propyl
A.1.533	Me	Cl	CF_3	CMe_2	-	-	2-cyano-cyclo-propyl
A.1.534	Me	Cl	CF_3	CMe_2	-	-	2-methyl-thiocyclo-propyl
A.1.535	Me	Cl	CF_3	CMe_2	-	-	2-methoxy-cyclo-propyl
A.1.536	Me	Cl	CF_3	CMe_2	-	-	2-hydroxy-cyclo-propyl
A.1.537	Me	Cl	CF_3	CMe_2	-	-	2-trifluoro-methyl-cyclo-propyl
A.1.538	Me	Cl	CF_3	CMe_2	-	-	cyclo-butyl
A.1.539	Me	Cl	CF_3	CMe_2	-	-	2-fluoro-cyclo-butyl
A.1.540	Me	Cl	CF_3	CMe_2	-	-	2,2-difluoro-cyclo-butyl
A.1.541	Me	Cl	CF_3	CMe_2	-	-	2-chloro-cyclo-butyl
A.1.542	Me	Cl	CF_3	CMe_2	-	-	2,2-dichloro-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							cyclo-butyl
A.1.543	Me	Cl	CF_3	CMe_2	-	-	2-bromo-cyclo-butyl
A.1.544	Me	Cl	CF_3	CMe_2	-	-	2,2-dibromo-cyclo-butyl
A.1.545	Me	Cl	CF_3	CMe_2	-	-	2-chloro-2-fluoro-cyclo-butyl
A.1.546	Me	Cl	CF_3	CMe_2	-	-	2-methyl-cyclo-butyl
A.1.547	Me	Cl	CF_3	CMe_2	-	-	2,2-dimethyl-cyclo-butyl
A.1.548	Me	Cl	CF_3	CMe_2	-	-	2-ethyl-cyclo-butyl
A.1.549	Me	Cl	CF_3	CMe_2	-	-	2,2-diethyl-cyclo-butyl
A.1.550	Me	Cl	CF_3	CMe_2	-	-	2-cyano-cyclo-butyl
A.1.551	Me	Cl	CF_3	CMe_2	-	-	2-methyl-thiocyclo-butyl
A.1.552	Me	Cl	CF_3	CMe_2	-	-	2-methoxy-cyclo-butyl
A.1.553	Me	Cl	CF_3	CMe_2	-	-	2-hydroxy-cyclo-butyl
A.1.554	Me	Cl	CF_3	CMe_2	-	-	2-trifluoro-methyl--

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							cyclo-butyl
A.1.555	Me	Cl	CF_3	CMe_2	-	-	3-methyl--cyclo-butyl
A.1.556	Me	Cl	CF_3	CMe_2	-	-	3,3-dimethyl--cyclo-butyl
A.1.557	Me	Cl	CF_3	CMe_2	-	-	3-chloro-cyclo-butyl
A.1.558	Me	Cl	CF_3	CMe_2	-	-	3,3-dichloro-cyclo-butyl
A.1.559	Me	Cl	CF_3	CMe_2	-	-	2-hydroxy-cyclo-butyl
A.1.560	Me	Cl	CF_3	CMe_2	-	-	2-trifluoro-methyl--cyclo-butyl
A.1.561	Me	Cl	CF_3	CMe_2	-	-	3-methyl--cyclo-butyl
A.1.562	Me	Cl	CF_3	CMe_2	-	-	3,3-dimethyl--cyclo-butyl
A.1.563	Me	Cl	CF_3	CMe_2	-	-	3-chloro-cyclo-butyl
A.1.564	Me	Cl	CF_3	CMe_2	-	-	3,3-dichloro-cyclo-butyl
A.1.565	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	1-fluoro-cyclo-propyl
A.1.566	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	1-chloro-cyclo-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							propyl
A.1.567	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	1-bromo-cyclo-propyl
A.1.568	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	1-methyl--cyclo-propyl
A.1.569	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	1-ethyl-cyclo-propyl
A.1.570	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	1-cyano-cyclo-propyl
A.1.571	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	1-methyl--thiocyclo-propyl
A.1.572	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	1-methoxy-cyclo-propyl
A.1.573	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	1-hydroxy-cyclo-propyl
A.1.574	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	1-trifluoro-methyl-cyclo-propyl
A.1.575	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-fluoro-cyclo-propyl
A.1.576	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2,2-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							difluoro-cyclo-propyl
A.1.577	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-chloro-cyclo-propyl
A.1.578	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2,2-dichloro-cyclo-propyl
A.1.579	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-bromo-cyclo-propyl
A.1.580	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2,2-dibromo-cyclo-propyl
A.1.581	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-chloro-2-fluoro-cyclo-propyl
A.1.582	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-methyl-cyclo-propyl
A.1.583	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2,2-dimethyl-cyclo-propyl
A.1.584	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-ethyl-cyclo-propyl
A.1.585	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2,2-

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
							diethyl-cyclo-propyl
A.1.586	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-cyano-cyclo-propyl
A.1.587	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-methyl-thiocyclo-propyl
A.1.588	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-methoxy-cyclo-propyl
A.1.589	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-hydroxy-cyclo-propyl
A.1.590	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-trifluoro-methyl--cyclo-propyl
A.1.591	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	cyclo-butyl
A1.592	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-fluoro-cyclo-butyl
A1.593	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2,2-difluoro-cyclo-butyl
A1.594	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-chloro-cyclo-butyl
A1.595	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2,2-dichloro-cyclo-butyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A1.596	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-bromo-cyclo-butyl
A1.597	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2,2-dibromo-cyclo-butyl
A1.598	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-chloro-2-fluoro-cyclo-butyl
A1.599	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-methyl-cyclo-butyl
A1.600	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2,2-dimethyl--cyclo-butyl
A1.601	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-ethyl-cyclo-butyl
A1.602	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2,2-diethyl-cyclo-butyl
A1.603	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-cyano-cyclo-butyl
A1.604	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-methyl-thiocyclo-butyl
A1.605	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-methoxy-cyclo-butyl
A1.606	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-hydroxy-cyclo-butyl
A1.607	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	2-trifluoro-methyl-cyclo-butyl

Comp. No.	R_{91}	R_{92}	R_{93}	A	X	Y	B
A1.608	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	3-methyl-cyclo-butyl
A1.609	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	3,3-dimethyl--cyclo-butyl
A1.610	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	3-chloro-cyclo-butyl
A1.611	Me	Cl	CF_3	$C(CH_2CH_2)$	-	-	3,3-dichloro-cyclo-butyl
A1.612	Me	Cl	CF_3	CH_2	-	-	1-methyl-2,2-dichloro-cyclo-propyl
A1.613	Me	Cl	CF_3	CH_2	-	-	1-methyl-2,2-dibromo-cyclo-propyl
A1.614	Me	Cl	CF_3	CH_2	-	-	2,2,3,3-tetrafluoro-cyclobutyl

Formulation examples (% = percent by weight)

Example F1: Emulsion concentrates	a)	b)	c)
Active ingredient	25 %	40 %	50 %
Calcium dodecylbenzenesulfonate	5 %	8 %	6 %
Castor oil polyethylene glycol ether (36 mol of EO)	5 %	-	-
Tributylphenoxypolyethylene glycol ether (30 mol of EO)	-	12 %	4 %
Cyclohexanone	-	15 %	20 %
Xylene mixture	65 %	25 %	20 %

Emulsions of any desired concentration can be prepared from such concentrates by dilution with water.

Example F2: Solutions	a)	b)	c)	d)
Active ingredient	80 %	10 %	5 %	95 %
Ethylene glycol monomethyl ether	20 %	-	-	-
Polyethylene glycol MW 400	-	70 %	-	-
N-Methylpyrrolid-2-one	-	20 %	-	-
Epoxidized coconut oil	-	-	1 %	5 %
Petroleum ether (boiling range: 160-190°)	-	-	94 %	-

The solutions are suitable for use in the form of microdrops.

Example F3: Granules	a)	b)	c)	d)
Active ingredient	5 %	10 %	8 %	21 %
Kaolin	94 %	-	79 %	54 %
Highly disperse silica	1 %	-	13 %	7 %
Attapulgite	-	90 %	-	18 %

The active ingredient is dissolved in dichloromethane, the solution is sprayed onto the carrier(s), and the solvent is subsequently evaporated in vacuo.

Example F4: Dusts	a)	b)
Active ingredient	2 %	5 %
Highly disperse silica	1 %	5 %
Talc	97 %	-
Kaolin	-	90 %

Ready-to-use dusts are obtained by intimately mixing the carriers and the active ingredient.

Example F5: Wettable powders	a)	b)	c)
Active ingredient	25 %	50 %	75 %
Sodium lignosulfonate	5 %	5 %	-

Sodium lauryl sulfate	3 %	-	5 %
Sodium diisobutylnaphthalenesulfonate	-	6 %	10 %
Octylphenoxypolyethylene glycol ether (7-8 mol of EO)	-	2 %	-
Highly disperse silica	5 %	10 %	10 %
Kaolin	62 %	27 %	-

The active ingredient is mixed with the additives and the mixture is ground thoroughly in a suitable mill. This gives wettable powders, which can be diluted with water to give suspensions of any desired concentration.

Example F6: Extruder granules

Active ingredient	10 %
Sodium lignosulfonate	2 %
Carboxymethylcellulose	1 %
Kaolin	87 %

The active ingredient is mixed with the additives, and the mixture is ground, moistened with water, extruded, granulated and dried in a stream of air.

Example F7: Coated granules

Active ingredient	3 %
Polyethylene glycol (MW 200)	3 %
Kaolin	94 %

In a mixer, the finely ground active ingredient is applied uniformly to the kaolin, which has been moistened with the polyethylene glycol. This gives dust-free coated granules.

Example F8: Suspension concentrate

Active ingredient	40 %
Ethylene glycol	10 %
Nonylphenoxypolyethylene glycol ether (15 mol of EO)	6 %
Sodium lignosulfonate	10 %
Carboxymethylcellulose	1 %
37 % aqueous formaldehyde solution	0.2 %

Silicone oil (75 % aqueous emulsion)	0.8 %
Water	32 %

The finely ground active ingredient is mixed intimately with the additives. Suspensions of any desired concentration can be prepared from the thus resulting suspension concentrate by dilution with water.

The activity of the compositions according to the invention can be broadened considerably, and adapted to prevailing circumstances, by adding other insecticidally, acaricidally and/or fungicidally active ingredients. Suitable additions to active ingredients here are, for example, representatives of the following classes of active ingredients: organophosphorus compounds, nitrophenol derivatives, thioureas, juvenile hormones, formamidines, benzophenone derivatives, ureas, pyrrole derivatives, carbamates, pyrethroids, chlorinated hydrocarbons, acylureas, pyridylmethyleneamino derivatives, macrolides, neonicotinoids and Bacillus thuringiensis preparations.

The following mixtures of the compounds of formula I with active ingredients are preferred (the abbreviation "TX" means "one compound selected from the group consisting of the compounds specifically described in tables P, P' and A of the present invention"):

an adjuvant selected from the group of substances consisting of petroleum oils (alternative name) (628) + TX,

an acaricide selected from the group of substances consisting of 1,1-bis(4-chloro-phenyl)-2-ethoxyethanol (IUPAC name) (910) + TX, 2,4-dichlorophenyl benzenesulfonate (IUPAC/Chemical Abstracts name) (1059) + TX, 2-fluoro-*N*-methyl-*N*-1-naphthylacetamide (IUPAC name) (1295) + TX, 4-chlorophenyl phenyl sulfone (IUPAC name) (981) + TX, abamectin (1) + TX, acequinocyl (3) + TX, acetoprole [CCN] + TX, acrinathrin (9) + TX, aldicarb (16) + TX, aldoxycarb (863) + TX, alpha-cypermethrin (202) + TX, amidithion (870) + TX, amidoflumet [CCN] + TX, amidothioate (872) + TX, amiton (875) + TX, amiton hydrogen oxalate (875) + TX, amitraz (24) + TX, aramite (881) + TX, arsenous oxide (882) + TX, AVI 382 (compound code) + TX, AZ 60541 (compound code) + TX, azinphos-ethyl (44) + TX, azinphos-methyl (45) + TX, azobenzene (IUPAC name) (888) + TX, azocyclotin (46) + TX, azothoate (889) + TX, benomyl (62) + TX, benoxafos (alternative name) [CCN] + TX, benzoximate (71) + TX, benzyl benzoate (IUPAC name)

[CCN] + TX, bifenazate (74) + TX, bifenthrin (76) + TX, binapacryl (907) + TX, brofenvalerate (alternative name) + TX, bromocyclen (918) + TX, bromophos (920) + TX, bromophos-ethyl (921) + TX, bromopropylate (94) + TX, buprofezin (99) + TX, butocarboxim (103) + TX, butoxycarboxim (104) + TX, butylpyridaben (alternative name) + TX, calcium polysulfide (IUPAC name) (111) + TX, camphechlor (941) + TX, carbanolate (943) + TX, carbaryl (115) + TX, carbofuran (118) + TX, carbophenothion (947) + TX, CGA 50'439 (development code) (125) + TX, chinomethionat (126) + TX, chlorbenside (959) + TX, chlordimeform (964) + TX, chlordimeform hydrochloride (964) + TX, chlorfenapyr (130) + TX, chlorfenethol (968) + TX, chlorfenson (970) + TX, chlorfensulphide (971) + TX, chlorfenvinphos (131) + TX, chlorobenzilate (975) + TX, chloromebuform (977) + TX, chloromethiuron (978) + TX, chloropropylate (983) + TX, chlorpyrifos (145) + TX, chlorpyrifos-methyl (146) + TX, chlorthiophos (994) + TX, cinerin I (696) + TX, cinerin II (696) + TX, cinerins (696) + TX, clofentezine (158) + TX, closantel (alternative name) [CCN] + TX, coumaphos (174) + TX, crotamiton (alternative name) [CCN] + TX, crotoxyphos (1010) + TX, cufraneb (1013) + TX, cyanthoate (1020) + TX, cyflumetofen (CAS Reg. No.: 400882-07-7) + TX, cyhalothrin (196) + TX, cyhexatin (199) + TX, cypermethrin (201) + TX, DCPM (1032) + TX, DDT (219) + TX, demephion (1037) + TX, demephion-O (1037) + TX, demephion-S (1037) + TX, demeton (1038) + TX, demeton-methyl (224) + TX, demeton-O (1038) + TX, demeton-O-methyl (224) + TX, demeton-S (1038) + TX, demeton-S-methyl (224) + TX, demeton-S-methylsulphon (1039) + TX, diafenthiuron (226) + TX, dialifos (1042) + TX, diazinon (227) + TX, dichlofluanid (230) + TX, dichlorvos (236) + TX, dicliphos (alternative name) + TX, dicofol (242) + TX, dicrotophos (243) + TX, dienochlor (1071) + TX, dimefox (1081) + TX, dimethoate (262) + TX, dinactin (alternative name) (653) + TX, dinex (1089) + TX, dinex-diclexine (1089) + TX, dinobuton (269) + TX, dinocap (270) + TX, dinocap-4 [CCN] + TX, dinocap-6 [CCN] + TX, dinocton (1090) + TX, dinopenton (1092) + TX, dinosulfon (1097) + TX, dinoterbon (1098) + TX, dioxathion (1102) + TX, diphenyl sulfone (IUPAC name) (1103) + TX, disulfiram (alternative name) [CCN] + TX, disulfoton (278) + TX, DNOC (282) + TX, dofenapyn (1113) + TX, doramectin (alternative name) [CCN] + TX, endosulfan (294) + TX, endothion (1121) + TX, EPN (297) + TX, eprinomectin (alternative name) [CCN] + TX, ethion (309) + TX, ethoate-methyl (1134) + TX, etoxazole (320) + TX, etrimfos (1142) + TX, fenazaflor (1147) + TX, fenazaquin (328) + TX, fenbutatin oxide (330) + TX, fenothiocarb (337) + TX, fenpropathrin (342) + TX, fenpyrad (alternative name) + TX, fenpyroximate (345) + TX, fenson (1157) + TX,

fentrifanil (1161) + TX, fenvalerate (349) + TX, fipronil (354) + TX, fluacrypyrim (360) + TX, fluazuron (1166) + TX, flubenzimine (1167) + TX, flucycloxuron (366) + TX, flucythrinate (367) + TX, fluenetil (1169) + TX, flufenoxuron (370) + TX, flumethrin (372) + TX, fluorbenside (1174) + TX, fluvalinate (1184) + TX, FMC 1137 (development code) (1185) + TX, formetanate (405) + TX, formetanate hydrochloride (405) + TX, formothion (1192) + TX, formparanate (1193) + TX, gamma-HCH (430) + TX, glyodin (1205) + TX, halfenprox (424) + TX, heptenophos (432) + TX, hexadecyl cyclopropanecarboxylate (IUPAC/Chemical Abstracts name) (1216) + TX, hexythiazox (441) + TX, iodomethane (IUPAC name) (542) + TX, isocarbophos (alternative name) (473) + TX, isopropyl O-(methoxyaminothiophosphoryl)salicylate (IUPAC name) (473) + TX, ivermectin (alternative name) [CCN] + TX, jasmolin I (696) + TX, jasmolin II (696) + TX, jodfenphos (1248) + TX, lindane (430) + TX, lufenuron (490) + TX, malathion (492) + TX, malonoben (1254) + TX, mecarbam (502) + TX, mephosfolan (1261) + TX, mesulfen (alternative name) [CCN] + TX, methacrifos (1266) + TX, methamidophos (527) + TX, methidathion (529) + TX, methiocarb (530) + TX, methomyl (531) + TX, methyl bromide (537) + TX, metolcarb (550) + TX, mevinphos (556) + TX, mexacarbate (1290) + TX, milbemectin (557) + TX, milbemycin oxime (alternative name) [CCN] + TX, mipafox (1293) + TX, monocrotophos (561) + TX, morphothion (1300) + TX, moxidectin (alternative name) [CCN] + TX, naled (567) + TX, NC-184 (compound code) + TX, NC-512 (compound code) + TX, nifluridide (1309) + TX, nikkomycins (alternative name) [CCN] + TX, nitrilacarb (1313) + TX, nitrilacarb 1:1 zinc chloride complex (1313) + TX, NNI-0101 (compound code) + TX, NNI-0250 (compound code) + TX, omethoate (594) + TX, oxamyl (602) + TX, oxydeprofos (1324) + TX, oxydisulfoton (1325) + TX, pp'-DDT (219) + TX, parathion (615) + TX, permethrin (626) + TX, petroleum oils (alternative name) (628) + TX, phenkapton (1330) + TX, phenthoate (631) + TX, phorate (636) + TX, phosalone (637) + TX, phosfolan (1338) + TX, phosmet (638) + TX, phosphamidon (639) + TX, phoxim (642) + TX, pirimiphos-methyl (652) + TX, polychloroterpenes (traditional name) (1347) + TX, polynactins (alternative name) (653) + TX, proclonol (1350) + TX, profenofos (662) + TX, promacyl (1354) + TX, propargite (671) + TX, propetamphos (673) + TX, propoxur (678) + TX, prothidathion (1360) + TX, prothoate (1362) + TX, pyrethrin I (696) + TX, pyrethrin II (696) + TX, pyrethrins (696) + TX, pyridaben (699) + TX, pyridaphenthion (701) + TX, pyrimidifen (706) + TX, pyrimitate (1370) + TX, quinalphos (711) + TX, quintiofos (1381) + TX, R-1492 (development code) (1382) + TX, RA-17 (development code) (1383) + TX, rotenone (722) + TX, schradan (1389) + TX,

sebufos (alternative name) + TX, selamectin (alternative name) [CCN] + TX, SI-0009 (compound code) + TX, sophamide (1402) + TX, spirodiclofen (738) + TX, spiromesifen (739) + TX, SSI-121 (development code) (1404) + TX, sulfiram (alternative name) [CCN] + TX, sulfluramid (750) + TX, sulfotep (753) + TX, sulfur (754) + TX, SZI-121 (development code) (757) + TX, tau-fluvalinate (398) + TX, tebufenpyrad (763) + TX, TEPP (1417) + TX, terbam (alternative name) + TX, tetrachlorvinphos (777) + TX, tetradifon (786) + TX, tetranactin (alternative name) (653) + TX, tetrasul (1425) + TX, thiafenox (alternative name) + TX, thiocarboxime (1431) + TX, thiofanox (800) + TX, thiometon (801) + TX, thioquinox (1436) + TX, thuringiensin (alternative name) [CCN] + TX, triamiphos (1441) + TX, triarathene (1443) + TX, triazophos (820) + TX, triazuron (alternative name) + TX, trichlorfon (824) + TX, trifenofos (1455) + TX, trinactin (alternative name) (653) + TX, vamidothion (847) + TX, vaniliprole [CCN] and YI-5302 (compound code) + TX,

an algicide selected from the group of substances consisting of bethoxazin [CCN] + TX, copper dioctanoate (IUPAC name) (170) + TX, copper sulfate (172) + TX, cybutryne [CCN] + TX, dichlone (1052) + TX, dichlorophen (232) + TX, endothal (295) + TX, fentin (347) + TX, hydrated lime [CCN] + TX, nabam (566) + TX, quinoclamine (714) + TX, quinonamid (1379) + TX, simazine (730) + TX, triphenyltin acetate (IUPAC name) (347) and triphenyltin hydroxide (IUPAC name) (347) + TX,

an anthelmintic selected from the group of substances consisting of abamectin (1) + TX, crufomate (1011) + TX, doramectin (alternative name) [CCN] + TX, emamectin (291) + TX, emamectin benzoate (291) + TX, eprinomectin (alternative name) [CCN] + TX, ivermectin (alternative name) [CCN] + TX, milbemycin oxime (alternative name) [CCN] + TX, moxidectin (alternative name) [CCN] + TX, piperazine [CCN] + TX, selamectin (alternative name) [CCN] + TX, spinosad (737) and thiophanate (1435) + TX,

an avicide selected from the group of substances consisting of chloralose (127) + TX, endrin (1122) + TX, fenthion (346) + TX, pyridin-4-amine (IUPAC name) (23) and strychnine (745) + TX,

a bactericide selected from the group of substances consisting of 1-hydroxy-1*H*-pyridine-2-thione (IUPAC name) (1222) + TX, 4-(quinoxalin-2-ylamino)benzenesulfonamide (IUPAC name) (748) + TX, 8-hydroxyquinoline sulfate (446) + TX, bronopol (97) + TX, copper dioctanoate (IUPAC name) (170) + TX, copper hydroxide (IUPAC name) (169) + TX, cresol [CCN] + TX, dichlorophen (232) + TX, dipyrithione (1105) + TX, dodicin (1112) + TX, fenaminosulf (1144) + TX, formaldehyde (404) + TX, hydrargaphen

(alternative name) [CCN] + TX, kasugamycin (483) + TX, kasugamycin hydrochloride hydrate (483) + TX, nickel bis(dimethyldithiocarbamate) (IUPAC name) (1308) + TX, nitrapyrin (580) + TX, octhilinone (590) + TX, oxolinic acid (606) + TX, oxytetracycline (611) + TX, potassium hydroxyquinoline sulfate (446) + TX, probenazole (658) + TX, streptomycin (744) + TX, streptomycin sesquisulfate (744) + TX, tecloftalam (766) + TX, and thiomersal (alternative name) [CCN] + TX,

a biological agent selected from the group of substances consisting of *Adoxophyes orana* GV (alternative name) (12) + TX, *Agrobacterium radiobacter* (alternative name) (13) + TX, *Amblyseius* spp. (alternative name) (19) + TX, *Anagrapha falcifera* NPV (alternative name) (28) + TX, *Anagrus atomus* (alternative name) (29) + TX, *Aphelinus abdominalis* (alternative name) (33) + TX, *Aphidius colemani* (alternative name) (34) + TX, *Aphidoletes aphidimyza* (alternative name) (35) + TX, *Autographa californica* NPV (alternative name) (38) + TX, *Bacillus firmus* (alternative name) (48) + TX, *Bacillus sphaericus* Neide (scientific name) (49) + TX, *Bacillus thuringiensis* Berliner (scientific name) (51) + TX, *Bacillus thuringiensis* subsp. *aizawai* (scientific name) (51) + TX, *Bacillus thuringiensis* subsp. *israelensis* (scientific name) (51) + TX, *Bacillus thuringiensis* subsp. *japonensis* (scientific name) (51) + TX, *Bacillus thuringiensis* subsp. *kurstaki* (scientific name) (51) + TX, *Bacillus thuringiensis* subsp. *tenebrionis* (scientific name) (51) + TX, *Beauveria bassiana* (alternative name) (53) + TX, *Beauveria brongniartii* (alternative name) (54) + TX, *Chrysoperla carnea* (alternative name) (151) + TX, *Cryptolaemus montrouzieri* (alternative name) (178) + TX, *Cydia pomonella* GV (alternative name) (191) + TX, *Dacnusa sibirica* (alternative name) (212) + TX, *Diglyphus isaea* (alternative name) (254) + TX, *Encarsia formosa* (scientific name) (293) + TX, *Eretmocerus eremicus* (alternative name) (300) + TX, *Helicoverpa zea* NPV (alternative name) (431) + TX, *Heterorhabditis bacteriophora* and *H. megidis* (alternative name) (433) + TX, *Hippodamia convergens* (alternative name) (442) + TX, *Leptomastix dactylopii* (alternative name) (488) + TX, *Macrolophus caliginosus* (alternative name) (491) + TX, *Mamestra brassicae* NPV (alternative name) (494) + TX, *Metaphycus helvolus* (alternative name) (522) + TX, *Metarhizium anisopliae* var. *acridum* (scientific name) (523) + TX, *Metarhizium anisopliae* var. *anisopliae* (scientific name) (523) + TX, *Neodiprion sertifer* NPV and *N. lecontei* NPV (alternative name) (575) + TX, *Orius* spp. (alternative name) (596) + TX, *Paecilomyces fumosoroseus* (alternative name) (613) + TX, *Phytoseiulus persimilis* (alternative name) (644) + TX, *Spodoptera exigua* multicapsid nuclear polyhedrosis virus (scientific name) (741) + TX, *Steinernema bibionis* (alternative name) (742) + TX, *Steinernema carpocapsae* (alternative name) (742) + TX, *Steinernema*

feltiae (alternative name) (742) + TX, *Steinernema glaseri* (alternative name) (742) + TX, *Steinernema riobrave* (alternative name) (742) + TX, *Steinernema riobravis* (alternative name) (742) + TX, *Steinernema scapterisci* (alternative name) (742) + TX, *Steinernema* spp. (alternative name) (742) + TX, *Trichogramma* spp. (alternative name) (826) + TX, *Typhlodromus occidentalis* (alternative name) (844) and *Verticillium lecanii* (alternative name) (848) + TX,

a soil sterilant selected from the group of substances consisting of iodomethane (IUPAC name) (542) and methyl bromide (537) + TX,

a chemosterilant selected from the group of substances consisting of apholate [CCN] + TX, bisazir (alternative name) [CCN] + TX, busulfan (alternative name) [CCN] + TX, diflubenzuron (250) + TX, dimatif (alternative name) [CCN] + TX, hemel [CCN] + TX, hempa [CCN] + TX, metepa [CCN] + TX, methiotepa [CCN] + TX, methyl apholate [CCN] + TX, morzid [CCN] + TX, penfluron (alternative name) [CCN] + TX, tepa [CCN] + TX, thiohempa (alternative name) [CCN] + TX, thiotepa (alternative name) [CCN] + TX, tretamine (alternative name) [CCN] and uredepa (alternative name) [CCN] + TX,

an insect pheromone selected from the group of substances consisting of (*E*)-dec-5-en-1-yl acetate with (*E*)-dec-5-en-1-ol (IUPAC name) (222) + TX, (*E*)-tridec-4-en-1-yl acetate (IUPAC name) (829) + TX, (*E*)-6-methylhept-2-en-4-ol (IUPAC name) (541) + TX, (*E* + *TX, Z*)-tetradeca-4 + TX, 10-dien-1-yl acetate (IUPAC name) (779) + TX, (*Z*)-dodec-7-en-1-yl acetate (IUPAC name) (285) + TX, (*Z*)-hexadec-11-enal (IUPAC name) (436) + TX, (*Z*)-hexadec-11-en-1-yl acetate (IUPAC name) (437) + TX, (*Z*)-hexadec-13-en-11-yn-1-yl acetate (IUPAC name) (438) + TX, (*Z*)-icos-13-en-10-one (IUPAC name) (448) + TX, (Z)-tetradec-7-en-1-al (IUPAC name) (782) + TX, (*Z*)-tetradec-9-en-1-ol (IUPAC name) (783) + TX, (Z)-tetradec-9-en-1-yl acetate (IUPAC name) (784) + TX, (7*E* + TX, 9*Z*)-dodeca-7 + TX, 9-dien-1-yl acetate (IUPAC name) (283) + TX, (9*Z* + TX, 11*E*)-tetradeca-9 + TX, 11-dien-1-yl acetate (IUPAC name) (780) + TX, (9*Z* + *TX,* 12*E*)-tetradeca-9 + TX, 12-dien-1-yl acetate (IUPAC name) (781) + TX, 14-methyloctadec-1-ene (IUPAC name) (545) + TX, 4-methylnonan-5-ol with 4-methylnonan-5-one (IUPAC name) (544) + TX, alpha-multistriatin (alternative name) [CCN] + TX, brevicomin (alternative name) [CCN] + TX, codlelure (alternative name) [CCN] + TX, codlemone (alternative name) (167) + TX, cuelure (alternative name) (179) + TX, disparlure (277) + TX, dodec-8-en-1-yl acetate (IUPAC name) (286) + TX, dodec-9-en-1-yl acetate (IUPAC name) (287) + TX, dodeca-8 + TX, 10-dien-1-yl acetate (IUPAC name) (284) + TX, dominicalure (alternative name) [CCN] + TX, ethyl 4-methyloctanoate (IUPAC name) (317) + TX, eugenol (alternative

name) [CCN] + TX, frontalin (alternative name) [CCN] + TX, gossyplure (alternative name) (420) + TX, grandlure (421) + TX, grandlure I (alternative name) (421) + TX, grandlure II (alternative name) (421) + TX, grandlure III (alternative name) (421) + TX, grandlure IV (alternative name) (421) + TX, hexalure [CCN] + TX, ipsdienol (alternative name) [CCN] + TX, ipsenol (alternative name) [CCN] + TX, japonilure (alternative name) (481) + TX, lineatin (alternative name) [CCN] + TX, litlure (alternative name) [CCN] + TX, looplure (alternative name) [CCN] + TX, medlure [CCN] + TX, megatomoic acid (alternative name) [CCN] + TX, methyl eugenol (alternative name) (540) + TX, muscalure (563) + TX, octadeca-2 + TX, 13-dien-1-yl acetate (IUPAC name) (588) + TX, octadeca-3 + TX, 13-dien-1-yl acetate (IUPAC name) (589) + TX, orfralure (alternative name) [CCN] + TX, oryctalure (alternative name) (317) + TX, ostramone (alternative name) [CCN] + TX, siglure [CCN] + TX, sordidin (alternative name) (736) + TX, sulcatol (alternative name) [CCN] + TX, tetradec-11-en-1-yl acetate (IUPAC name) (785) + TX, trimedlure (839) + TX, trimedlure A (alternative name) (839) + TX, trimedlure B_1 (alternative name) (839) + TX, trimedlure B_2 (alternative name) (839) + TX, trimedlure C (alternative name) (839) and trunc-call (alternative name) [CCN] + TX,

an insect repellent selected from the group of substances consisting of 2-(octylthio)-ethanol (IUPAC name) (591) + TX, butopyronoxyl (933) + TX, butoxy(polypropylene glycol) (936) + TX, dibutyl adipate (IUPAC name) (1046) + TX, dibutyl phthalate (1047) + TX, dibutyl succinate (IUPAC name) (1048) + TX, diethyltoluamide [CCN] + TX, dimethyl carbate [CCN] + TX, dimethyl phthalate [CCN] + TX, ethyl hexanediol (1137) + TX, hexamide [CCN] + TX, methoquin-butyl (1276) + TX, methylneodecanamide [CCN] + TX, oxamate [CCN] and picaridin [CCN] + TX,

an insecticide selected from the group of substances consisting of 1 + TX, 1-dichloro-1-nitroethane (IUPAC/Chemical Abstracts name) (1058) + TX, 1 + TX, 1-dichloro-2 + TX, 2-bis(4-ethylphenyl)ethane (IUPAC name) (1056) + TX, 1 + TX, 2-dichloropropane (IUPAC/Chemical Abstracts name) (1062) + TX, 1 + TX, 2-dichloropropane with 1 + TX, 3-dichloropropene (IUPAC name) (1063) + TX, 1-bromo-2-chloroethane (IUPAC/Chemical Abstracts name) (916) + TX, 2 + TX, 2 + TX, 2-trichloro-1-(3 + TX, 4-dichlorophenyl)ethyl acetate (IUPAC name) (1451) + TX, 2 + TX, 2-dichlorovinyl 2-ethylsulfinylethyl methyl phosphate (IUPAC name) (1066) + TX, 2-(1 + TX, 3-dithiolan-2-yl)phenyl dimethylcarbamate (IUPAC/ Chemical Abstracts name) (1109) + TX, 2-(2-butoxyethoxy)ethyl thiocyanate (IUPAC/Chemical Abstracts name) (935) + TX, 2-(4 + TX, 5-dimethyl-1 + TX, 3-dioxolan-2-yl)phenyl methylcarbamate (IUPAC/ Chemical Abstracts

name) (1084) + TX, 2-(4-chloro-3 + TX, 5-xylyloxy)ethanol (IUPAC name) (986) + TX, 2-chlorovinyl diethyl phosphate (IUPAC name) (984) + TX, 2-imidazolidone (IUPAC name) (1225) + TX, 2-isovalerylindan-1 + TX, 3-dione (IUPAC name) (1246) + TX, 2-methyl(prop-2-ynyl)aminophenyl methylcarbamate (IUPAC name) (1284) + TX, 2-thiocyanatoethyl laurate (IUPAC name) (1433) + TX, 3-bromo-1-chloroprop-1-ene (IUPAC name) (917) + TX, 3-methyl-1-phenylpyrazol-5-yl dimethylcarbamate (IUPAC name) (1283) + TX, 4-methyl(prop-2-ynyl)amino-3 + TX, 5-xylyl methylcarbamate (IUPAC name) (1285) + TX, 5 + TX, 5-dimethyl-3-oxocyclohex-1-enyl dimethylcarbamate (IUPAC name) (1085) + TX, abamectin (1) + TX, acephate (2) + TX, acetamiprid (4) + TX, acethion (alternative name) [CCN] + TX, acetoprole [CCN] + TX, acrinathrin (9) + TX, acrylonitrile (IUPAC name) (861) + TX, alanycarb (15) + TX, aldicarb (16) + TX, aldoxycarb (863) + TX, aldrin (864) + TX, allethrin (17) + TX, allosamidin (alternative name) [CCN] + TX, allyxycarb (866) + TX, alpha-cypermethrin (202) + TX, alpha-ecdysone (alternative name) [CCN] + TX, aluminium phosphide (640) + TX, amidithion (870) + TX, amidothioate (872) + TX, aminocarb (873) + TX, amiton (875) + TX, amiton hydrogen oxalate (875) + TX, amitraz (24) + TX, anabasine (877) + TX, athidathion (883) + TX, AVI 382 (compound code) + TX, AZ 60541 (compound code) + TX, azadirachtin (alternative name) (41) + TX, azamethiphos (42) + TX, azinphos-ethyl (44) + TX, azinphos-methyl (45) + TX, azothoate (889) + TX, *Bacillus thuringiensis* delta endotoxins (alternative name) (52) + TX, barium hexafluorosilicate (alternative name) [CCN] + TX, barium polysulfide (IUPAC/Chemical Abstracts name) (892) + TX, barthrin [CCN] + TX, Bayer 22/190 (development code) (893) + TX, Bayer 22408 (development code) (894) + TX, bendiocarb (58) + TX, benfuracarb (60) + TX, bensultap (66) + TX, beta-cyfluthrin (194) + TX, beta-cypermethrin (203) + TX, bifenthrin (76) + TX, bioallethrin (78) + TX, bioallethrin S-cyclopentenyl isomer (alternative name) (79) + TX, bioethanomethrin [CCN] + TX, biopermethrin (908) + TX, bioresmethrin (80) + TX, bis(2-chloroethyl) ether (IUPAC name) (909) + TX, bistrifluron (83) + TX, borax (86) + TX, brofenvalerate (alternative name) + TX, bromfenvinfos (914) + TX, bromocyclen (918) + TX, bromo-DDT (alternative name) [CCN] + TX, bromophos (920) + TX, bromophos-ethyl (921) + TX, bufencarb (924) + TX, buprofezin (99) + TX, butacarb (926) + TX, butathiofos (927) + TX, butocarboxim (103) + TX, butonate (932) + TX, butoxycarboxim (104) + TX, butylpyridaben (alternative name) + TX, cadusafos (109) + TX, calcium arsenate [CCN] + TX, calcium cyanide (444) + TX, calcium polysulfide (IUPAC name) (111) + TX, camphechlor (941) + TX, carbanolate (943) + TX, carbaryl (115) + TX, carbofuran (118) + TX, carbon disulfide

(IUPAC/Chemical Abstracts name) (945) + TX, carbon tetrachloride (IUPAC name) (946) + TX, carbophenothion (947) + TX, carbosulfan (119) + TX, cartap (123) + TX, cartap hydrochloride (123) + TX, cevadine (alternative name) (725) + TX, chlorbicyclen (960) + TX, chlordane (128) + TX, chlordecone (963) + TX, chlordimeform (964) + TX, chlordimeform hydrochloride (964) + TX, chlorethoxyfos (129) + TX, chlorfenapyr (130) + TX, chlorfenvinphos (131) + TX, chlorfluazuron (132) + TX, chlormephos (136) + TX, chloroform [CCN] + TX, chloropicrin (141) + TX, chlorphoxim (989) + TX, chlorprazophos (990) + TX, chlorpyrifos (145) + TX, chlorpyrifos-methyl (146) + TX, chlorthiophos (994) + TX, chromafenozide (150) + TX, cinerin I (696) + TX, cinerin II (696) + TX, cinerins (696) + TX, cis-resmethrin (alternative name) + TX, cismethrin (80) + TX, clocythrin (alternative name) + TX, cloethocarb (999) + TX, closantel (alternative name) [CCN] + TX, clothianidin (165) + TX, copper acetoarsenite [CCN] + TX, copper arsenate [CCN] + TX, copper oleate [CCN] + TX, coumaphos (174) + TX, coumithoate (1006) + TX, crotamiton (alternative name) [CCN] + TX, crotoxyphos (1010) + TX, crufomate (1011) + TX, cryolite (alternative name) (177) + TX, CS 708 (development code) (1012) + TX, cyanofenphos (1019) + TX, cyanophos (184) + TX, cyanthoate (1020) + TX, cyclethrin [CCN] + TX, cycloprothrin (188) + TX, cyfluthrin (193) + TX, cyhalothrin (196) + TX, cypermethrin (201) + TX, cyphenothrin (206) + TX, cyromazine (209) + TX, cythioate (alternative name) [CCN] + TX, *d*-limonene (alternative name) [CCN] + TX, *d*-tetramethrin (alternative name) (788) + TX, DAEP (1031) + TX, dazomet (216) + TX, DDT (219) + TX, decarbofuran (1034) + TX, deltamethrin (223) + TX, demephion (1037) + TX, demephion-O (1037) + TX, demephion-S (1037) + TX, demeton (1038) + TX, demeton-methyl (224) + TX, demeton-O (1038) + TX, demeton-O-methyl (224) + TX, demeton-S (1038) + TX, demeton-S-methyl (224) + TX, demeton-S-methylsulphon (1039) + TX, diafenthiuron (226) + TX, dialifos (1042) + TX, diamidafos (1044) + TX, diazinon (227) + TX, dicapthon (1050) + TX, dichlofenthion (1051) + TX, dichlorvos (236) + TX, dicliphos (alternative name) + TX, dicresyl (alternative name) [CCN] + TX, dicrotophos (243) + TX, dicyclanil (244) + TX, dieldrin (1070) + TX, diethyl 5-methylpyrazol-3-yl phosphate (IUPAC name) (1076) + TX, diflubenzuron (250) + TX, dilor (alternative name) [CCN] + TX, dimefluthrin [CCN] + TX, dimefox (1081) + TX, dimetan (1085) + TX, dimethoate (262) + TX, dimethrin (1083) + TX, dimethylvinphos (265) + TX, dimetilan (1086) + TX, dinex- (1089) + TX, dinex-diclexine (1089) + TX, dinoprop (1093) + TX, dinosam (1094) + TX, dinoseb (1095) + TX, dinotefuran (271) + TX, diofenolan (1099) + TX, dioxabenzofos (1100) + TX, dioxacarb (1101) + TX, dioxathion (1102) + TX, disulfoton (278) + TX,

dithicrofos (1108) + TX, DNOC (282) + TX, doramectin (alternative name) [CCN] + TX, DSP (1115) + TX, ecdysterone (alternative name) [CCN] + TX, EI 1642 (development code) (1118) + TX, emamectin (291) + TX, emamectin benzoate (291) + TX, EMPC (1120) + TX, empenthrin (292) + TX, endosulfan (294) + TX, endothion (1121) + TX, endrin (1122) + TX, EPBP (1123) + TX, EPN (297) + TX, epofenonane (1124) + TX, eprinomectin (alternative name) [CCN] + TX, esfenvalerate (302) + TX, etaphos (alternative name) [CCN] + TX, ethiofencarb (308) + TX, ethion (309) + TX, ethiprole (310) + TX, ethoate-methyl (1134) + TX, ethoprophos (312) + TX, ethyl formate (IUPAC name) [CCN] + TX, ethyl-DDD (alternative name) (1056) + TX, ethylene dibromide (316) + TX, ethylene dichloride (chemical name) (1136) + TX, ethylene oxide [CCN] + TX, etofenprox (319) + TX, etrimfos (1142) + TX, EXD (1143) + TX, famphur (323) + TX, fenamiphos (326) + TX, fenazaflor (1147) + TX, fenchlorphos (1148) + TX, fenethacarb (1149) + TX, fenfluthrin (1150) + TX, fenitrothion (335) + TX, fenobucarb (336) + TX, fenoxacrim (1153) + TX, fenoxycarb (340) + TX, fenpirithrin (1155) + TX, fenpropathrin (342) + TX, fenpyrad (alternative name) + TX, fensulfothion (1158) + TX, fenthion (346) + TX, fenthion-ethyl [CCN] + TX, fenvalerate (349) + TX, fipronil (354) + TX, flonicamid (358) + TX, flubendiamide (CAS. Reg. No.: 272451-65-7) + TX, flucofuron (1168) + TX, flucycloxuron (366) + TX, flucythrinate (367) + TX, fluenetil (1169) + TX, flufenerim [CCN] + TX, flufenoxuron (370) + TX, flufenprox (1171) + TX, flumethrin (372) + TX, fluvalinate (1184) + TX, FMC 1137 (development code) (1185) + TX, fonofos (1191) + TX, formetanate (405) + TX, formetanate hydrochloride (405) + TX, formothion (1192) + TX, formparanate (1193) + TX, fosmethilan (1194) + TX, fospirate (1195) + TX, fosthiazate (408) + TX, fosthietan (1196) + TX, furathiocarb (412) + TX, furethrin (1200) + TX, gamma-cyhalothrin (197) + TX, gamma-HCH (430) + TX, guazatine (422) + TX, guazatine acetates (422) + TX, GY-81 (development code) (423) + TX, halfenprox (424) + TX, halofenozide (425) + TX, HCH (430) + TX, HEOD (1070) + TX, heptachlor (1211) + TX, heptenophos (432) + TX, heterophos [CCN] + TX, hexaflumuron (439) + TX, HHDN (864) + TX, hydramethylnon (443) + TX, hydrogen cyanide (444) + TX, hydroprene (445) + TX, hyquincarb (1223) + TX, imidacloprid (458) + TX, imiprothrin (460) + TX, indoxacarb (465) + TX, iodomethane (IUPAC name) (542) + TX, IPSP (1229) + TX, isazofos (1231) + TX, isobenzan (1232) + TX, isocarbophos (alternative name) (473) + TX, isodrin (1235) + TX, isofenphos (1236) + TX, isolane (1237) + TX, isoprocarb (472) + TX, isopropyl *O*-(methoxyaminothiophosphoryl)salicylate (IUPAC name) (473) + TX, isoprothiolane (474) + TX, isothioate (1244) + TX, isoxathion (480) + TX, ivermectin

(alternative name) [CCN] + TX, jasmolin I (696) + TX, jasmolin II (696) + TX, jodfenphos (1248) + TX, juvenile hormone I (alternative name) [CCN] + TX, juvenile hormone II (alternative name) [CCN] + TX, juvenile hormone III (alternative name) [CCN] + TX, kelevan (1249) + TX, kinoprene (484) + TX, lambda-cyhalothrin (198) + TX, lead arsenate [CCN] + TX, lepimectin (CCN) + TX, leptophos (1250) + TX, lindane (430) + TX, lirimfos (1251) + TX, lufenuron (490) + TX, lythidathion (1253) + TX, *m*-cumenyl methylcarbamate (IUPAC name) (1014) + TX, magnesium phosphide (IUPAC name) (640) + TX, malathion (492) + TX, malonoben (1254) + TX, mazidox (1255) + TX, mecarbam (502) + TX, mecarphon (1258) + TX, menazon (1260) + TX, mephosfolan (1261) + TX, mercurous chloride (513) + TX, mesulfenfos (1263) + TX, metaflumizone (CCN) + TX, metam (519) + TX, metam-potassium (alternative name) (519) + TX, metam-sodium (519) + TX, methacrifos (1266) + TX, methamidophos (527) + TX, methanesulfonyl fluoride (IUPAC/Chemical Abstracts name) (1268) + TX, methidathion (529) + TX, methiocarb (530) + TX, methocrotophos (1273) + TX, methomyl (531) + TX, methoprene (532) + TX, methoquin-butyl (1276) + TX, methothrin (alternative name) (533) + TX, methoxychlor (534) + TX, methoxyfenozide (535) + TX, methyl bromide (537) + TX, methyl isothiocyanate (543) + TX, methylchloroform (alternative name) [CCN] + TX, methylene chloride [CCN] + TX, metofluthrin [CCN] + TX, metolcarb (550) + TX, metoxadiazone (1288) + TX, mevinphos (556) + TX, mexacarbate (1290) + TX, milbemectin (557) + TX, milbemycin oxime (alternative name) [CCN] + TX, mipafox (1293) + TX, mirex (1294) + TX, monocrotophos (561) + TX, morphothion (1300) + TX, moxidectin (alternative name) [CCN] + TX, naftalofos (alternative name) [CCN] + TX, naled (567) + TX, naphthalene (IUPAC/Chemical Abstracts name) (1303) + TX, NC-170 (development code) (1306) + TX, NC-184 (compound code) + TX, nicotine (578) + TX, nicotine sulfate (578) + TX, nifluridide (1309) + TX, nitenpyram (579) + TX, nithiazine (1311) + TX, nitrilacarb (1313) + TX, nitrilacarb 1:1 zinc chloride complex (1313) + TX, NNI-0101 (compound code) + TX, NNI-0250 (compound code) + TX, nornicotine (traditional name) (1319) + TX, novaluron (585) + TX, noviflumuron (586) + TX, *O*-5-dichloro-4-iodophenyl *O*-ethyl ethylphosphonothioate (IUPAC name) (1057) + TX, *O,O*-diethyl *O*-4-methyl-2-oxo-2*H*-chromen-7-yl phosphorothioate (IUPAC name) (1074) + TX, *O,O*-diethyl *O*-6-methyl-2-propylpyrimidin-4-yl phosphorothioate (IUPAC name) (1075) + TX, *O,O,O',O'*-tetrapropyl dithiopyrophosphate (IUPAC name) (1424) + TX, oleic acid (IUPAC name) (593) + TX, omethoate (594) + TX, oxamyl (602) + TX, oxydemeton-methyl (609) + TX, oxydeprofos (1324) + TX, oxydisulfoton (1325) + TX, pp'-DDT (219) + TX, para-dichlorobenzene

[CCN] + TX, parathion (615) + TX, parathion-methyl (616) + TX, penfluron (alternative name) [CCN] + TX, pentachlorophenol (623) + TX, pentachlorophenyl laurate (IUPAC name) (623) + TX, permethrin (626) + TX, petroleum oils (alternative name) (628) + TX, PH 60-38 (development code) (1328) + TX, phenkapton (1330) + TX, phenothrin (630) + TX, phenthoate (631) + TX, phorate (636) + TX, phosalone (637) + TX, phosfolan (1338) + TX, phosmet (638) + TX, phosnichlor (1339) + TX, phosphamidon (639) + TX, phosphine (IUPAC name) (640) + TX, phoxim (642) + TX, phoxim-methyl (1340) + TX, pirimetaphos (1344) + TX, pirimicarb (651) + TX, pirimiphos-ethyl (1345) + TX, pirimiphos-methyl (652) + TX, polychlorodicyclopentadiene isomers (IUPAC name) (1346) + TX, polychloroterpenes (traditional name) (1347) + TX, potassium arsenite [CCN] + TX, potassium thiocyanate [CCN] + TX, prallethrin (655) + TX, precocene I (alternative name) [CCN] + TX, precocene II (alternative name) [CCN] + TX, precocene III (alternative name) [CCN] + TX, primidophos (1349) + TX, profenofos (662) + TX, profluthrin [CCN] + TX, promacyl (1354) + TX, promecarb (1355) + TX, propaphos (1356) + TX, propetamphos (673) + TX, propoxur (678) + TX, prothidathion (1360) + TX, prothiofos (686) + TX, prothoate (1362) + TX, protrifenbute [CCN] + TX, pymetrozine (688) + TX, pyraclofos (689) + TX, pyrazophos (693) + TX, pyresmethrin (1367) + TX, pyrethrin I (696) + TX, pyrethrin II (696) + TX, pyrethrins (696) + TX, pyridaben (699) + TX, pyridalyl (700) + TX, pyridaphenthion (701) + TX, pyrimidifen (706) + TX, pyrimitate (1370) + TX, pyriproxyfen (708) + TX, quassia (alternative name) [CCN] + TX, quinalphos (711) + TX, quinalphos-methyl (1376) + TX, quinothion (1380) + TX, quintiofos (1381) + TX, R-1492 (development code) (1382) + TX, rafoxanide (alternative name) [CCN] + TX, resmethrin (719) + TX, rotenone (722) + TX, RU 15525 (development code) (723) + TX, RU 25475 (development code) (1386) + TX, ryania (alternative name) (1387) + TX, ryanodine (traditional name) (1387) + TX, sabadilla (alternative name) (725) + TX, schradan (1389) + TX, sebufos (alternative name) + TX, selamectin (alternative name) [CCN] + TX, SI-0009 (compound code) + TX, SI-0205 (compound code) + TX, SI-0404 (compound code) + TX, SI-0405 (compound code) + TX, silafluofen (728) + TX, SN 72129 (development code) (1397) + TX, sodium arsenite [CCN] + TX, sodium cyanide (444) + TX, sodium fluoride (IUPAC/Chemical Abstracts name) (1399) + TX, sodium hexafluorosilicate (1400) + TX, sodium pentachlorophenoxide (623) + TX, sodium selenate (IUPAC name) (1401) + TX, sodium thiocyanate [CCN] + TX, sophamide (1402) + TX, spinosad (737) + TX, spiromesifen (739) + TX, spirotetrmat (CCN) + TX, sulcofuron (746) + TX, sulcofuron-sodium (746) + TX, sulfluramid (750) + TX, sulfotep (753) + TX, sulfuryl fluoride (756) +

TX, sulprofos (1408) + TX, tar oils (alternative name) (758) + TX, tau-fluvalinate (398) + TX, tazimcarb (1412) + TX, TDE (1414) + TX, tebufenozide (762) + TX, tebufenpyrad (763) + TX, tebupirimfos (764) + TX, teflubenzuron (768) + TX, tefluthrin (769) + TX, temephos (770) + TX, TEPP (1417) + TX, terallethrin (1418) + TX, terbam (alternative name) + TX, terbufos (773) + TX, tetrachloroethane [CCN] + TX, tetrachlorvinphos (777) + TX, tetramethrin (787) + TX, theta-cypermethrin (204) + TX, thiacloprid (791) + TX, thiafenox (alternative name) + TX, thiamethoxam (792) + TX, thicrofos (1428) + TX, thiocarboxime (1431) + TX, thiocyclam (798) + TX, thiocyclam hydrogen oxalate (798) + TX, thiodicarb (799) + TX, thiofanox (800) + TX, thiometon (801) + TX, thionazin (1434) + TX, thiosultap (803) + TX, thiosultap-sodium (803) + TX, thuringiensin (alternative name) [CCN] + TX, tolfenpyrad (809) + TX, tralomethrin (812) + TX, transfluthrin (813) + TX, transpermethrin (1440) + TX, triamiphos (1441) + TX, triazamate (818) + TX, triazophos (820) + TX, triazuron (alternative name) + TX, trichlorfon (824) + TX, trichlormetaphos-3 (alternative name) [CCN] + TX, trichloronat (1452) + TX, trifenofos (1455) + TX, triflumuron (835) + TX, trimethacarb (840) + TX, triprene (1459) + TX, vamidothion (847) + TX, vaniliprole [CCN] + TX, veratridine (alternative name) (725) + TX, veratrine (alternative name) (725) + TX, XMC (853) + TX, xylylcarb (854) + TX, YI-5302 (compound code) + TX, zeta-cypermethrin (205) + TX, zetamethrin (alternative name) + TX, zinc phosphide (640) + TX, zolaprofos (1469) and ZXI 8901 (development code) (858) + TX,

a molluscicide selected from the group of substances consisting of bis(tributyltin) oxide (IUPAC name) (913) + TX, bromoacetamide [CCN] + TX, calcium arsenate [CCN] + TX, cloethocarb (999) + TX, copper acetoarsenite [CCN] + TX, copper sulfate (172) + TX, fentin (347) + TX, ferric phosphate (IUPAC name) (352) + TX, metaldehyde (518) + TX, methiocarb (530) + TX, niclosamide (576) + TX, niclosamide-olamine (576) + TX, pentachlorophenol (623) + TX, sodium pentachlorophenoxide (623) + TX, tazimcarb (1412) + TX, thiodicarb (799) + TX, tributyltin oxide (913) + TX, trifenmorph (1454) + TX, trimethacarb (840) + TX, triphenyltin acetate (IUPAC name) (347) and triphenyltin hydroxide (IUPAC name) (347) + TX,

a nematicide selected from the group of substances consisting of AKD-3088 (compound code) + TX, 1 + TX, 2-dibromo-3-chloropropane (IUPAC/Chemical Abstracts name) (1045) + TX, 1 + TX, 2-dichloropropane (IUPAC/ Chemical Abstracts name) (1062) + TX, 1 + TX, 2-dichloropropane with 1 + TX, 3-dichloropropene (IUPAC name) (1063) + TX, 1 + TX, 3-dichloropropene (233) + TX, 3 + TX, 4-dichlorotetrahydrothiophene 1 +

TX, 1-dioxide (IUPAC/Chemical Abstracts name) (1065) + TX, 3-(4-chlorophenyl)-5-methylrhodanine (IUPAC name) (980) + TX, 5-methyl-6-thioxo-1 + TX, 3 + TX, 5-thiadiazinan-3-ylacetic acid (IUPAC name) (1286) + TX, 6-isopentenylaminopurine (alternative name) (210) + TX, abamectin (1) + TX, acetoprole [CCN] + TX, alanycarb (15) + TX, aldicarb (16) + TX, aldoxycarb (863) + TX, AZ 60541 (compound code) + TX, benclothiaz [CCN] + TX, benomyl (62) + TX, butylpyridaben (alternative name) + TX, cadusafos (109) + TX, carbofuran (118) + TX, carbon disulfide (945) + TX, carbosulfan (119) + TX, chloropicrin (141) + TX, chlorpyrifos (145) + TX, cloethocarb (999) + TX, cytokinins (alternative name) (210) + TX, dazomet (216) + TX, DBCP (1045) + TX, DCIP (218) + TX, diamidafos (1044) + TX, dichlofenthion (1051) + TX, dicliphos (alternative name) + TX, dimethoate (262) + TX, doramectin (alternative name) [CCN] + TX, emamectin (291) + TX, emamectin benzoate (291) + TX, eprinomectin (alternative name) [CCN] + TX, ethoprophos (312) + TX, ethylene dibromide (316) + TX, fenamiphos (326) + TX, fenpyrad (alternative name) + TX, fensulfothion (1158) + TX, fosthiazate (408) + TX, fosthietan (1196) + TX, furfural (alternative name) [CCN] + TX, GY-81 (development code) (423) + TX, heterophos [CCN] + TX, iodomethane (IUPAC name) (542) + TX, isamidofos (1230) + TX, isazofos (1231) + TX, ivermectin (alternative name) [CCN] + TX, kinetin (alternative name) (210) + TX, mecarphon (1258) + TX, metam (519) + TX, metam-potassium (alternative name) (519) + TX, metam-sodium (519) + TX, methyl bromide (537) + TX, methyl isothiocyanate (543) + TX, milbemycin oxime (alternative name) [CCN] + TX, moxidectin (alternative name) [CCN] + TX, *Myrothecium verrucaria* composition (alternative name) (565) + TX, NC-184 (compound code) + TX, oxamyl (602) + TX, phorate (636) + TX, phosphamidon (639) + TX, phosphocarb [CCN] + TX, sebufos (alternative name) + TX, selamectin (alternative name) [CCN] + TX, spinosad (737) + TX, terbam (alternative name) + TX, terbufos (773) + TX, tetrachlorothiophene (IUPAC/ Chemical Abstracts name) (1422) + TX, thiafenox (alternative name) + TX, thionazin (1434) + TX, triazophos (820) + TX, triazuron (alternative name) + TX, xylenols [CCN] + TX, YI-5302 (compound code) and zeatin (alternative name) (210) + TX,

a nitrification inhibitor selected from the group of substances consisting of potassium ethylxanthate [CCN] and nitrapyrin (580) + TX,

a plant activator selected from the group of substances consisting of acibenzolar (6) + TX, acibenzolar-*S*-methyl (6) + TX, probenazole (658) and *Reynoutria sachalinensis* extract (alternative name) (720) + TX,

a rodenticide selected from the group of substances consisting of 2-isovalerylindan-1 + TX, 3-dione (IUPAC name) (1246) + TX, 4-(quinoxalin-2-ylamino)benzenesulfonamide (IUPAC name) (748) + TX, alpha-chlorohydrin [CCN] + TX, aluminium phosphide (640) + TX, antu (880) + TX, arsenous oxide (882) + TX, barium carbonate (891) + TX, bisthiosemi (912) + TX, brodifacoum (89) + TX, bromadiolone (91) + TX, bromethalin (92) + TX, calcium cyanide (444) + TX, chloralose (127) + TX, chlorophacinone (140) + TX, cholecalciferol (alternative name) (850) + TX, coumachlor (1004) + TX, coumafuryl (1005) + TX, coumatetralyl (175) + TX, crimidine (1009) + TX, difenacoum (246) + TX, difethialone (249) + TX, diphacinone (273) + TX, ergocalciferol (301) + TX, flocoumafen (357) + TX, fluoroacetamide (379) + TX, flupropadine (1183) + TX, flupropadine hydrochloride (1183) + TX, gamma-HCH (430) + TX, HCH (430) + TX, hydrogen cyanide (444) + TX, iodomethane (IUPAC name) (542) + TX, lindane (430) + TX, magnesium phosphide (IUPAC name) (640) + TX, methyl bromide (537) + TX, norbormide (1318) + TX, phosacetim (1336) + TX, phosphine (IUPAC name) (640) + TX, phosphorus [CCN] + TX, pindone (1341) + TX, potassium arsenite [CCN] + TX, pyrinuron (1371) + TX, scilliroside (1390) + TX, sodium arsenite [CCN] + TX, sodium cyanide (444) + TX, sodium fluoroacetate (735) + TX, strychnine (745) + TX, thallium sulfate [CCN] + TX, warfarin (851) and zinc phosphide (640) + TX,

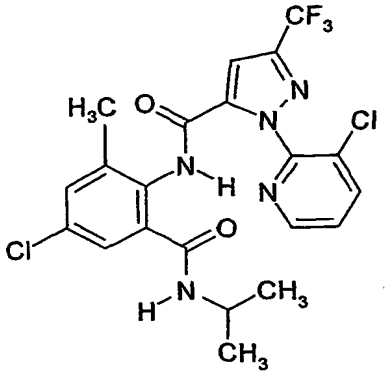
a synergist selected from the group of substances consisting of 2-(2-butoxyethoxy)-ethyl piperonylate (IUPAC name) (934) + TX, 5-(1 + TX, 3-benzodioxol-5-yl)-3-hexylcyclohex-2-enone (IUPAC name) (903) + TX, farnesol with nerolidol (alternative name) (324) + TX, MB-599 (development code) (498) + TX, MGK 264 (development code) (296) + TX, piperonyl butoxide (649) + TX, piprotal (1343) + TX, propyl isomer (1358) + TX, S421 (development code) (724) + TX, sesamex (1393) + TX, sesasmolin (1394) and sulfoxide (1406) + TX,

an animal repellent selected from the group of substances consisting of anthraquinone (32) + TX, chloralose (127) + TX, copper naphthenate [CCN] + TX, copper oxychloride (171) + TX, diazinon (227) + TX, dicyclopentadiene (chemical name) (1069) + TX, guazatine (422) + TX, guazatine acetates (422) + TX, methiocarb (530) + TX, pyridin-4-amine (IUPAC name) (23) + TX, thiram (804) + TX, trimethacarb (840) + TX, zinc naphthenate [CCN] and ziram (856) + TX,

a virucide selected from the group of substances consisting of imanin (alternative name) [CCN] and ribavirin (alternative name) [CCN] + TX,

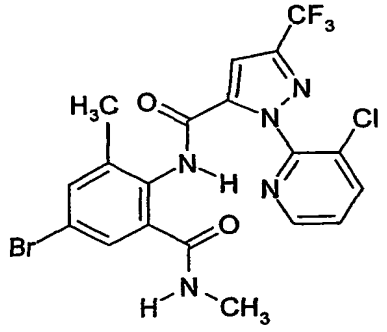
and a wound protectant selected from the group of substances consisting of mercuric oxide (512) + TX, octhilinone (590) and thiophanate-methyl (802) + TX,

the compound of formula A-1



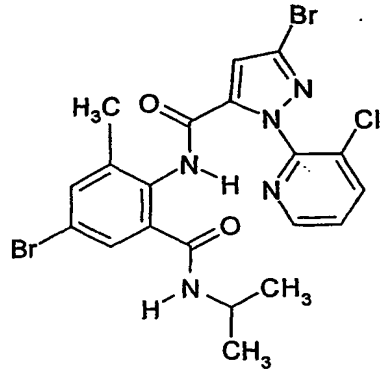
(A-1) + TX,

the formula A-2



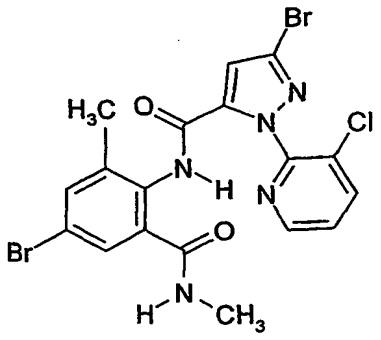
(A-2) + TX,

the formula A-3



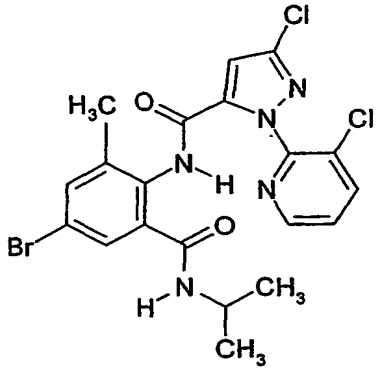
(A-3) + TX,

the formula A-4



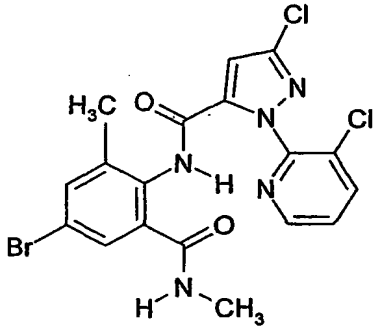
(A-4) + TX,

the formula A-5



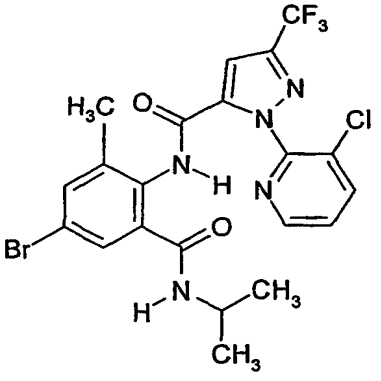
(A-5) + TX,

the formula A-6



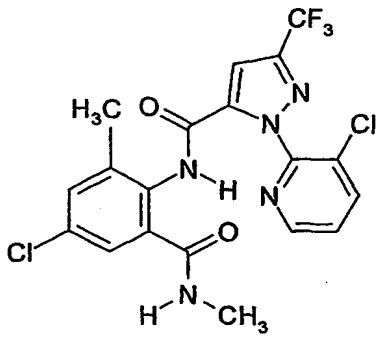
(A-6) + TX,

the formula A-7



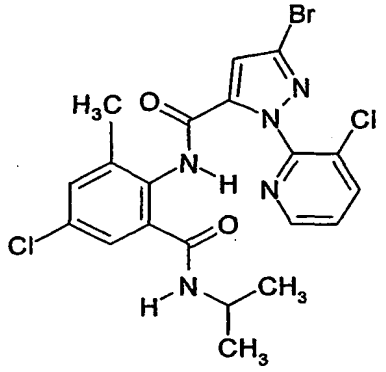
(A-7) + TX,

the formula A-8



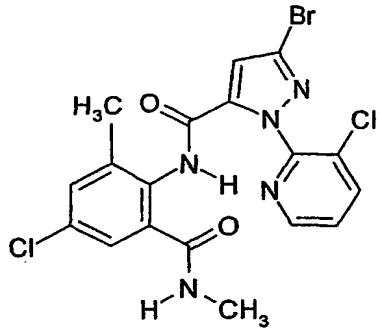
(A-8) + TX,

the formula A-9



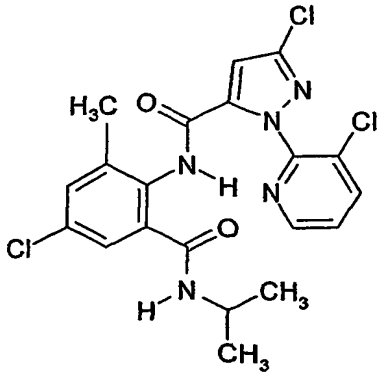
(A-9) + TX,

the formula A-10



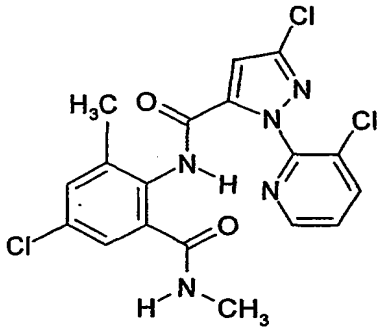
(A-10) + TX,

the formula A-11



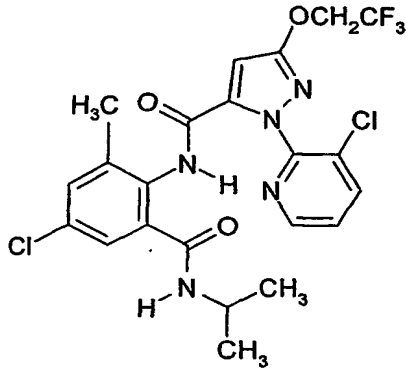
(A-11) + TX,

the formula A-12



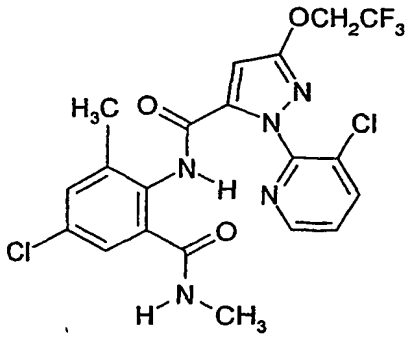
(A-12) + TX,

the formula A-13



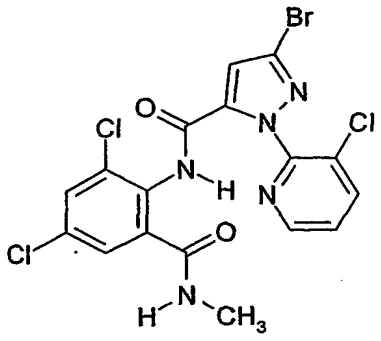
(A-13) + TX,

the formula A-14



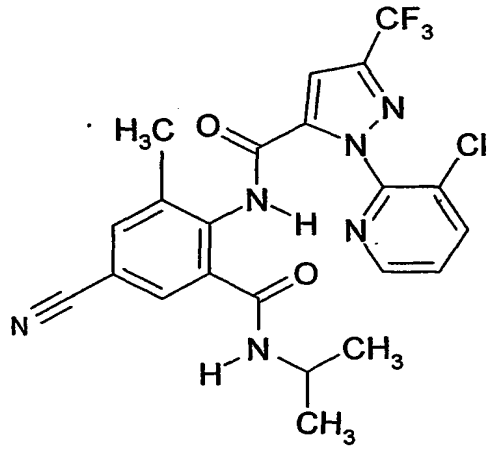
(A-14) + TX,

the formula A-15



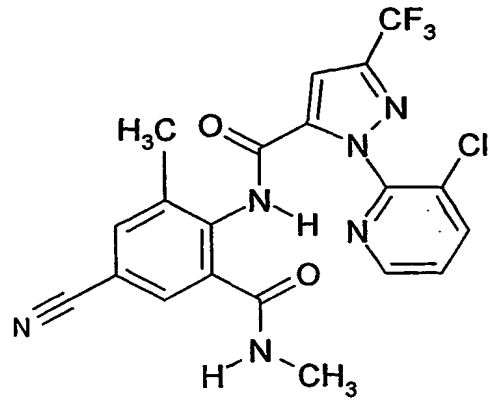
(A-15) + TX,

the formula A-16



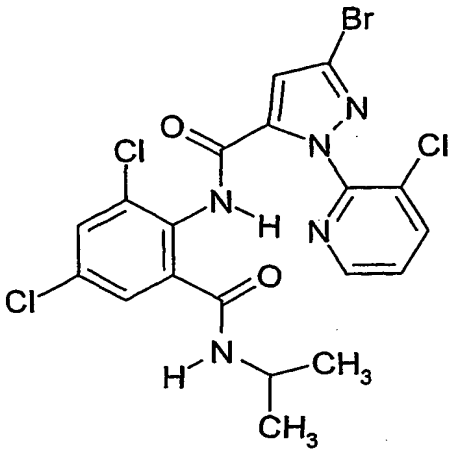
(A-16) + TX,

the formula A-17



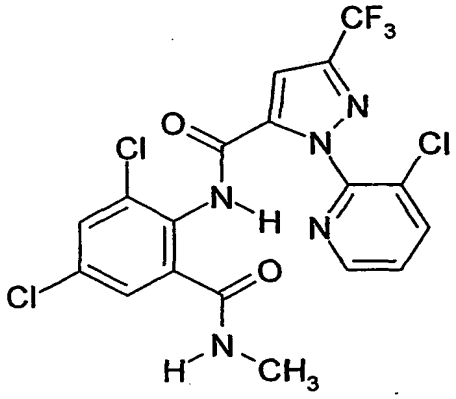
(A-17) + TX,

the formula A-18



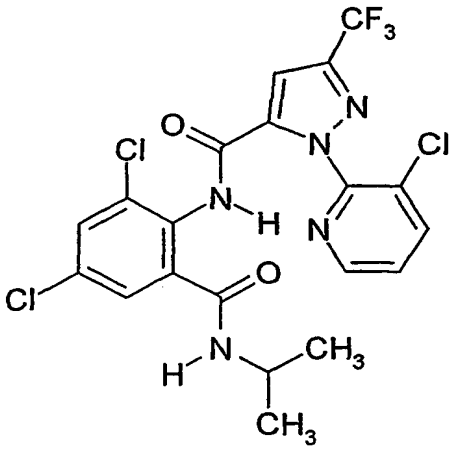
(A-18) + TX,

the formula A-19



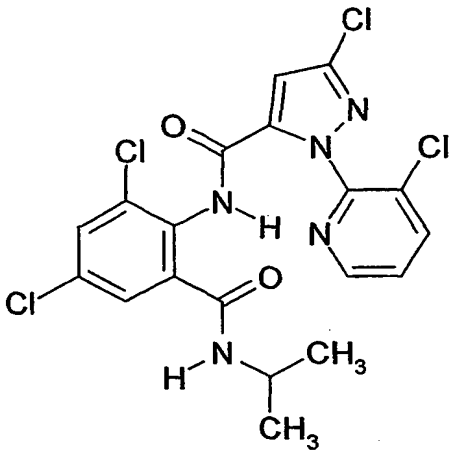
(A-19) + TX,

the formula A-20



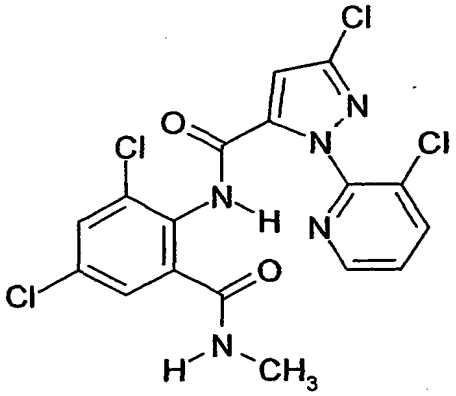
(A-20) + TX,

the formula A-21



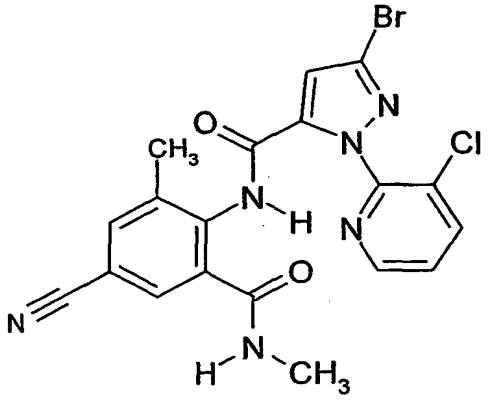
(A-21) + TX,

the formula A-22



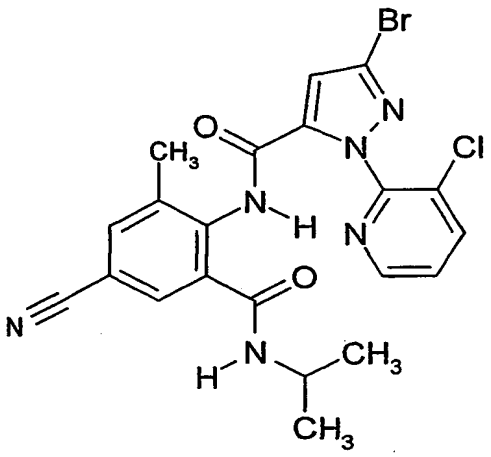
(A-22) + TX,

the formula A-23



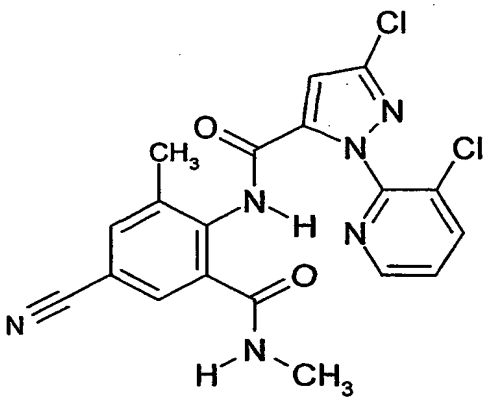
(A-23) + TX,

the formula A-24



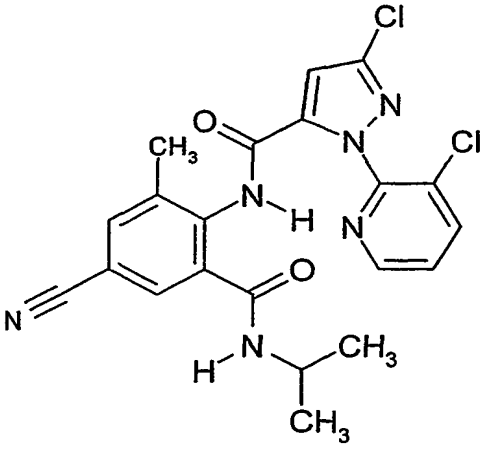
(A-24) + TX,

the formula A-25



(A-25) + TX,

the formula A-26

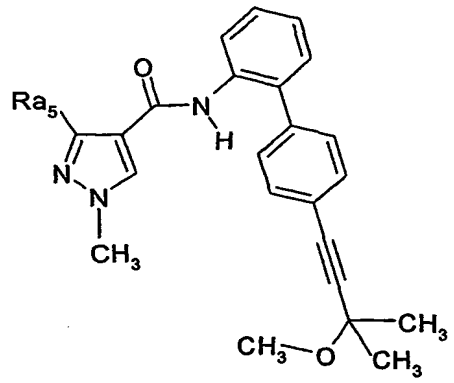


(A-26) + TX,

and Azaconazole (60207-31-0] + TX, Bitertanol [70585-36-3] + TX, Bromuconazole [116255-48-2] + TX, Cyproconazole [94361-06-5] + TX, Difenoconazole [119446-68-3] + TX, Diniconazole [83657-24-3] + TX, Epoxiconazole [106325-08-0] + TX,

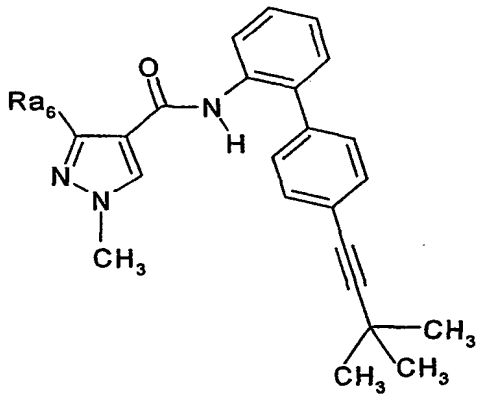
Fenbuconazole [114369-43-6] + TX, Fluquinconazole [136426-54-5] + TX, Flusilazole [85509-19-9] + TX, Flutriafol [76674-21-0] + TX, Hexaconazole [79983-71-4] + TX, Imazalil [35554-44-0] + TX, Imibenconazole [86598-92-7] + TX, Ipconazole [125225-28-7] + TX, Metconazole [125116-23-6] + TX, Myclobutanil [88671-89-0] + TX, Pefurazoate [101903-30-4] + TX, Penconazole [66246-88-6] + TX, Prothioconazole [178928-70-6] + TX, Pyrifenox [88283-41-4] + TX, Prochloraz [67747-09-5] + TX, Propiconazole [60207-90-1] + TX, Simeconazole [149508-90-7] + TX, Tebuconazole [107534-96-3] + TX, Tetraconazole [112281-77-3] + TX, Triadimefon [43121-43-3] + TX, Triadimenol [55219-65-3] + TX, Triflumizole [99387-89-0] + TX, Triticonazole [131983-72-7] + TX, Ancymidol [12771-68-5] + TX, Fenarimol [60168-88-9] + TX, Nuarimol [63284-71-9] + TX, Bupirimate [41483-43-6] + TX, Dimethirimol [5221-53-4] + TX, Ethirimol [23947-60-6] + TX, Dodemorph [1593-77-7] + TX, Fenpropidine [67306-00-7] + TX, Fenpropimorph [67564-91-4] + TX, Spiroxamine [118134-30-8] + TX, Tridemorph [81412-43-3] + TX, Cyprodinil [121552-61-2] + TX, Mepanipyrim [110235-47-7] + TX, Pyrimethanil [53112-28-0] + TX, Fenpiclonil [74738-17-3] + TX, Fludioxonil [131341-86-1] + TX, Benalaxyl [71626-11-4] + TX, Furalaxyl [57646-30-7] + TX, Metalaxyl [57837-19-1] + TX, R-Metalaxyl [70630-17-0] + TX, Ofurace [58810-48-3] + TX, Oxadixyl [77732-09-3] + TX, Benomyl [17804-35-2] + TX, Carbendazim [10605-21-7] + TX, Debacarb [62732-91-6] + TX, Fuberidazole [3878-19-1] + TX, Thiabendazole [148-79-8] + TX, Chlozolinate [84332-86-5] + TX, Dichlozoline [24201-58-9] + TX, Iprodione [36734-19-7] + TX, Myclozoline [54864-61-8] + TX, Procymidone [32809-16-8] + TX, Vinclozoline [50471-44-8] + TX, Boscalid [188425-85-6] + TX, Carboxin [5234-68-4] + TX, Fenfuram [24691-80-3] + TX, Flutolanil [66332-96-5] + TX, Mepronil [55814-41-0] + TX, Oxycarboxin [5259-88-1] + TX, Penthiopyrad [183675-82-3] + TX, Thifluzamide [130000-40-7] + TX, Guazatine [108173-90-6] + TX, Dodine [2439-10-3] [112-65-2] (freie Base) + TX, Iminoctadine [13516-27-3] + TX, Azoxystrobin [131860-33-8] + TX, Dimoxystrobin [149961-52-4] + TX, Enestroburin {Proc. BCPC + TX, Int. Congr. + TX, Glasgow + TX, 2003 + TX, 1 + TX, 93} + TX, Fluoxastrobin [361377-29-9] + TX, Kresoxim-methyl [143390-89-0] + TX, Metominostrobin [133408-50-1] + TX, Trifloxystrobin [141517-21-7] + TX, Orysastrobin [248593-16-0] + TX, Picoxystrobin [117428-22-5] + TX, Pyraclostrobin

[175013-18-0] + TX, Ferbam [14484-64-1] + TX, Mancozeb [8018-01-7] + TX, Maneb [12427-38-2] + TX, Metiram [9006-42-2] + TX, Propineb [12071-83-9] + TX, Thiram [137-26-8] + TX, Zineb [12122-67-7] + TX, Ziram [137-30-4] + TX, Captafol [2425-06-1] + TX, Captan [133-06-2] + TX, Dichlofluanid [1085-98-9] + TX, Fluoroimide [41205-21-4] + TX, Folpet [133-07-3] + TX, Tolylfluanid [731-27-1] + TX, Bordeaux Mixture [8011-63-0] + TX, Copperhydroxid [20427-59-2] + TX, Copperoxychlorid [1332-40-7] + TX, Coppersulfat [7758-98-7] + TX, Copperoxid [1317-39-1] + TX, Mancopper [53988-93-5] + TX, Oxine-copper [10380-28-6] + TX, Dinocap [131-72-6] + TX, Nitrothal-isopropyl [10552-74-6] + TX, Edifenphos [17109-49-8] + TX, Iprobenphos [26087-47-8] + TX, Isoprothiolane [50512-35-1] + TX, Phosdiphen [36519-00-3] + TX, Pyrazophos [13457-18-6] + TX, Tolclofos-methyl [57018-04-9] + TX, Acibenzolar-S-methyl [135158-54-2] + TX, Anilazine [101-05-3] + TX, Benthiavalicarb [413615-35-7] + TX, Blasticidin-S [2079-00-7] + TX, Chinomethionat [2439-01-2] + TX, Chloroneb [2675-77-6] + TX, Chlorothalonil *[1897-45-6]* + TX, Cyflufenamid *[180409-60-3]* + TX, Cymoxanil *[57966-95-7]* + TX, Dichlone *[117-80-6]* + TX, Diclocymet [139920-32-4] + TX, Diclomezine *[62865-36-5]* + TX, Dicloran *[99-30-9]* + TX, Diethofencarb *[87130-20-9]* + TX, Dimethomorph *[110488-70-5]* + TX, SYP-LI90 (Flumorph) *[211867-47-9]* + TX, Dithianon *[3347-22-6]* + TX, Ethaboxam *[162650-77-3]* + TX, Etridiazole *[2593-15-9]* + TX, Famoxadone *[131807-57-3]* + TX, Fenamidone *[161326-34-7]* + TX, Fenoxanil *[115852-48-7]* + TX, Fentin *[668-34-8]* + TX, Ferimzone *[89269-64-7]* + TX, Fluazinam *[79622-59-6]* + TX, Fluopicolide [239110-15-7] + TX, Flusulfamide [106917-52-6] + TX, Fenhexamid [126833-17-8] + TX, Fosetyl-aluminium [39148-24-8] + TX, Hymexazol [10004-44-1] + TX, Iprovalicarb [140923-17-7] + TX, IKF-916 (Cyazofamid) *[120116-88-3]* + TX, Kasugamycin [6980-18-3] + TX, Methasulfocarb *[66952-49-6]* + TX, Metrafenone *[220899-03-6]* + TX, Pencycuron *[66063-05-6]* + TX, Phthalide [27355-22-2] + TX, Polyoxins [11113-80-7] + TX, Probenazole [27605-76-1] + TX, Propamocarb [25606-41-1] + TX, Proquinazid [189278-12-4] + TX, Pyroquilon [57369-32-1] + TX, Quinoxyfen [124495-18-7] + TX, Quintozene [82-68-8] + TX, Schwefel [7704-34-9] + TX, Tiadinil [223580-51-6] + TX, Triazoxide [72459-58-6] + TX, Tricyclazole [41814-78-2] + TX, Triforine [26644-46-2] + TX, Validamycin [37248-47-8] + TX, Zoxamide (RH7281) [156052-68-5] + TX, Mandipropamid [374726-62-2] + TX, the compound of formula F-1



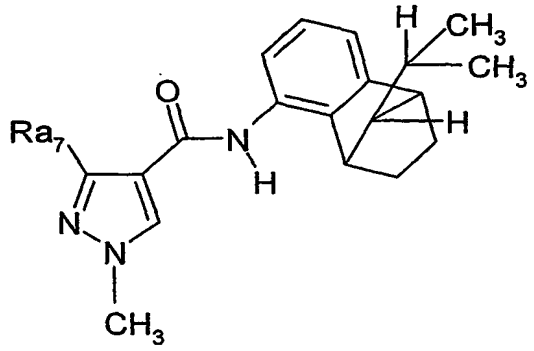
(F-1)

wherein Ra_5 is trifluoromethyl or difluoromethyl (WO2004/058723) + TX, ; the compound of formula F-2



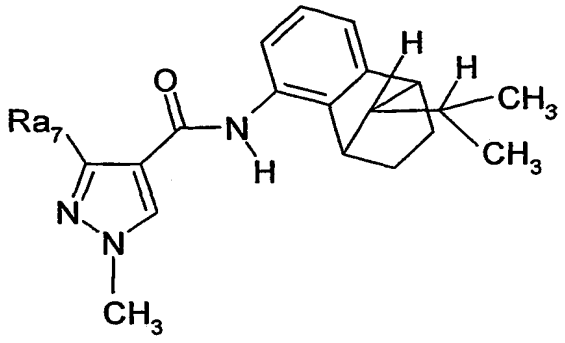
(F-2)

wherein Ra_6 is trifluoromethyl or difluoromethyl (WO2004/058723) + TX,; the racemic compound of formula F-3 (syn)



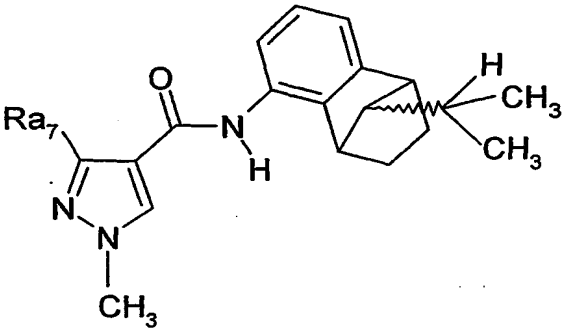
(F-3);

wherein Ra_7 is trifluoromethyl or difluoromethyl (WO2004/035589) + TX,
the racemic mixture of formula F-4 (anti)



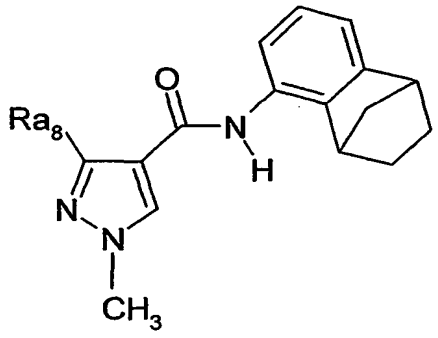
(F-4);

wherein Ra_7 is trifluoromethyl or difluoromethyl (WO2004/035589) + TX,the compound of formula F-5



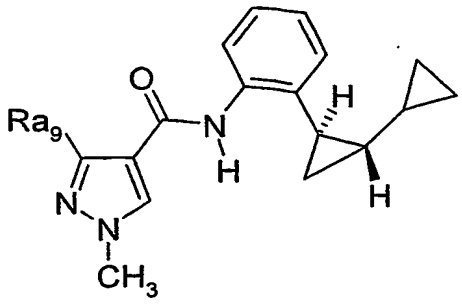
(F-5),

which is an epimeric mixture of racemic compounds of formulae F-3 (syn) and F-4 (anti), wherein the ratio from racemic compounds of formula F-3 (syn) to racemic cmpounds of formula F-4 (anti) is from 1000 : 1 to 1 : 1000 and wherein Ra_7 is trifluoromethyl or difluoromethyl (WO2004/035589) + TX, the compound of formula F-6



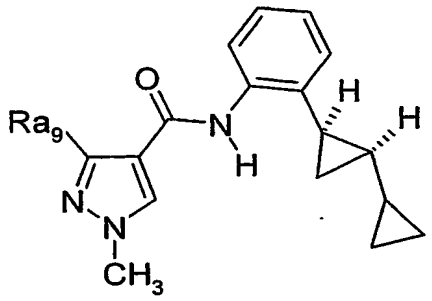
(F-6);

wherein Ra_8 is trifluoromethyl or difluoromethyl (WO2004/035589) + TX, the racemic compound of formula F-7 (trans)



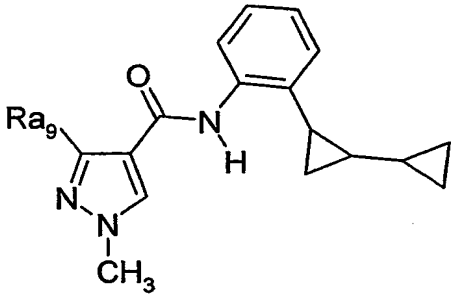
(F-7)

wherein Ra_9 is trifluoromethyl or difluoromethyl (WO03/074491) + TX, the racemic compound of formula F-8 (cis)



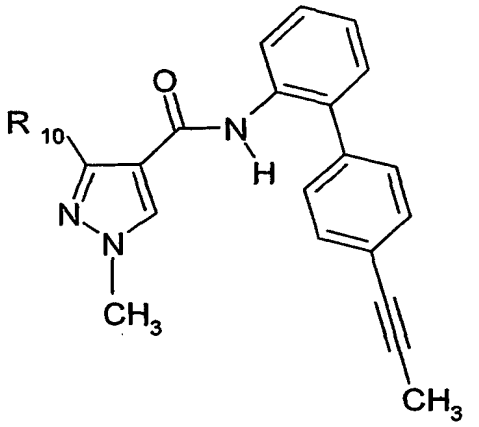
(F-8)

wherein Ra_9 is trifluoromethyl or difluoromethyl (WO03/074491) + TX, the compound of formula F-9



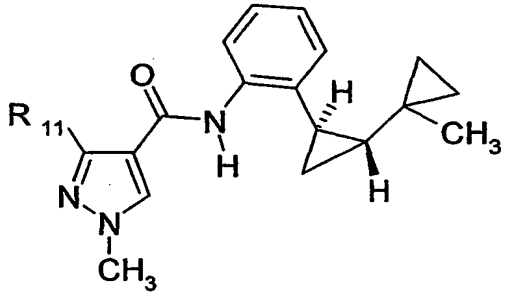
(F-9),

which is a mixture of the racemic compounds of formulae F-7 (trans) and F-8 (cis), wherein the ratio of the racemic compound of formula F-7 (trans) to the racemic compound of formula F-8 (cis) is 2 : 1 to 100 : 1 ; and wherein Ra_9 is trifluoromethyl or difluoromethyl (WO03/074491) + TX,
the compound of formula F-10



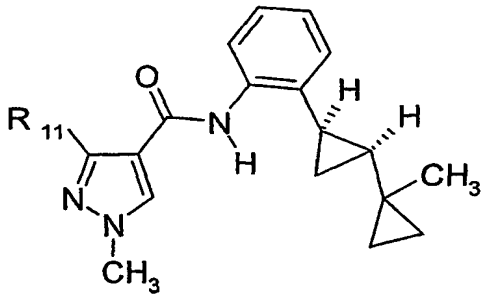
(F-10),

wherein R_{10} is trifluoromethyl or difluoromethyl (WO2004/058723) + TX, the racemic compound of formula F-11 (trans)



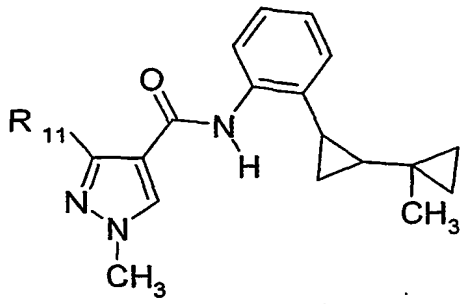
(F-11),

wherein R_{11} is trifluoromethyl or difluoromethyl (WO03/074491) + TX, the racemic compound of formula F-12 (cis)



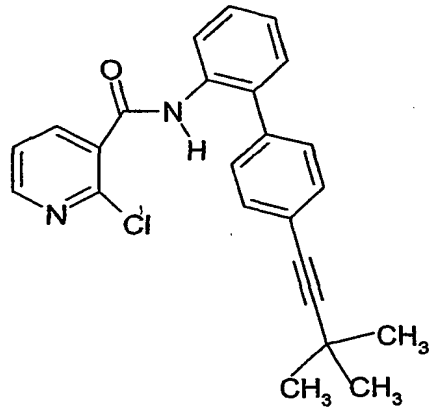
(F-12),

wherein R_{11} is trifluoromethyl or difluoromethyl (WO03/074491) + TX, the compound of formula F-13



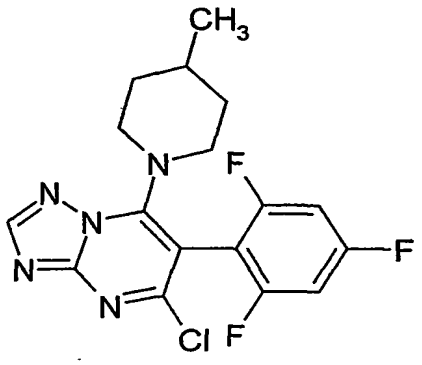
(F-13),

which is a racemic mixture of formulae F-11 (trans) and F-12 (cis), and wherein R_{11} is trifluoromethyl or difluoromethyl (WO 03/074491) + TX, and the compound of formula F-14



(F-14),

(WO2004/058723) + TX, and the compound of formula F-15



(F-15) *[214706-53-3],*

+ TX.

The references in brackets behind the active ingredients, e.g. *[3878-19-1]* refer to the Chemical Abstracts Registry number. The compouds of formulae A-1 to A-26 are described in WO 03/015518 or in WO 04/067528. The above described mixing partners are known. Where the active ingredients are included in "The Pesticide Manual" [The Pesticide Manual - A World Compendium; Thirteenth Edition; Editor: C. D. S. Tomlin; The British Crop

Protection Council], they are described therein under the entry number given in round brackets hereinabove for the particular compound; for example, the compound "abamectin" is described under entry number (1). Where "[CCN]" is added hereinabove to the particular compound, the compound in question is included in the "Compendium of Pesticide Common Names", which is accessible on the internet [A. Wood; Compendium of Pesticide Common Names, Copyright © 1995-2004]; for example, the compound "acetoprole" is described under the internet address http://www.alanwood.net/pesticides/acetoprole.html.

Most of the active ingredients described above are referred to hereinabove by a so-called "common name", the relevant "ISO common name" or another "common name" being used in individual cases. If the designation is not a "common name", the nature of the designation used instead is given in round brackets for the particular compound; in that case, the IUPAC name, the IUPAC/Chemical Abstracts name, a "chemical name", a "traditional name", a "compound name" or a "develoment code" is used or, if neither one of those designations nor a "common name" is used, an "alternative name" is employed. "CAS Reg. No" means the Chemical Abstracts Registry Number.

The mixtures comprising a compound of formula I and one or more active ingredients as described above can be applied, for example in a single "ready-mix" form, in a combined spray mixture composed from separate formulations of the single active ingredient components, such as a "tank-mix", and also in a combined use of the single active ingredients when applied in a sequential manner, i.e. one after the other with a reasonably short period, such as a few hours or days. The order of applying the components (I) and active ingredients as described above is not essential for working the present invention.

Biological Examples (% = per cent by weight, unless otherwise specified)

Example B1: Activity against Aphis craccivora

Pea seedlings are infected with Aphis craccivora, subsequently sprayed with a spray mixture comprising 400 ppm of active ingredient and then incubated at 20°. 3 and 6 days later, the percentage reduction in the population (% activity) is determined by comparing the number of dead aphids between the treated and untreated plants.

In this test, compounds listed in the Tables above show good activity.

Example B2: Activity against Diabrotica balteata

Maize seedlings are sprayed with an aqueous emulsion spray mixture comprising 400 ppm of active ingredient and, after the spray coating has dried on, populated with 10 larvae (2nd instar) of Diabrotica balteata and introduced into a plastic container. 6 days later, the percentage reduction in the population (% activity) is determined by comparing the number of dead larvae between the treated and untreated plants.

In this test, compounds listed in the Tables above show good activity. In particular compounds P1, P2, P6, P7, P24, P29, P25, P60, P62, P63, P48, P46, P50, P23, P8, P66, P22, P14, P21, P11 P67, P68 have an activity of over 80%.

Example B3: Activity against Heliothis virescens (foliar application)

Young soya plants are sprayed with an aqueous emulsion spray mixture comprising 400 ppm of active ingredient and, after the spray coating has dried on, populated with 10 caterpillars (1st instar) of Heliothis virescens and introduced into a plastic container. 6 days later, the percentage reduction in the population and in the feeding damage (% activity) are determined by comparing the number of dead caterpillars and the feeding damage between the treated and untreated plants.

In this test, compounds listed in the Tables above show good activity. In particular compounds P1, P2, P6, P10, P3, P7, P15, P24, P51, P50, P63, P62, P61, P60, P12, P65, P66, P9, P8, P67, P68, P23, P21, P10, P11, P47, P52, P53 have an activity of over 80%.

Example B4: Activity against Heliothis virescens (application to eggs)

Heliothis virescens eggs, which have been deposited on cotton, are sprayed with an aqueous emulsion spray mixture comprising 400 ppm of active ingredient. After 8 days, the percentage hatching rate of the eggs and the survival rate of the caterpillars (% activity) are evaluated in comparison with untreated control batches.

In this test, compounds listed in the Tables above show good activity. In particular compound P1, P2, P6, P7, P39, P3, P10, P24, P46, P48, P50, P51, P29, P31, P25, P67, P63, P62, P61, P60, P64, P68, P10, P8, P32, P9, P30, P23, P14, P21, P11, P40, P69, P70, P71, P72 have an activity of over 80%.

Example B5: Activity against Myzus persicae (foliar application)

Pea seedlings are infected with Myzus persicae, subsequently sprayed with a spray mixture comprising 400 ppm of active ingredient and then incubated at 20°. 3 and 6 days later, the percentage reduction in the population (% activity) is determined by comparing the number of dead aphids between the treated and untreated plants.

In this test, compounds listed in the Tables above show good activity.

Example B6: Activity against Myzus persicae (systemic application)

Pea seedlings are infected with Myzus persicae, and their roots are subsequently placed into a spray mixture comprising 400 ppm of active ingredient. The seedlings are then incubated at 20°. 3 and 6 days later, the percentage reduction in the population (% activity) is determined by comparing the number of dead aphids between the treated and untreated plants.

In this test, compounds listed in the Tables above show good activity.

Example B7: Activity against Plutella xylostella

Young cabbage plants are sprayed with an aqueous emulsion spray mixture comprising 400 ppm of active ingredient and, after the spray coating has dried on, populated with 10 caterpillars (3rd instar) of Plutella xylostella and introduced into a plastic container. 3 days later, the percentage reduction in the population and in the feeding damage (% activity) are determined by comparing the number of dead caterpillars and the feeding damage between the treated and untreated plants.

In this test, compounds listed in the Tables above show good activity. In particular compounds P1, P2, P6, P39, P3, P41, P7, P10, P15, P24, P29, P31, P25, P8, P9, P32, P30, P12, P13, P23, P22, P63, P62, P61, P60, P64, P63, P14, P46, P48, P50, P51, P17, P65, P66, P21, P18, P10, P67, P68, P16, P11, P35, P52, P53, P38, P40, P70 have an activity of over 80%.

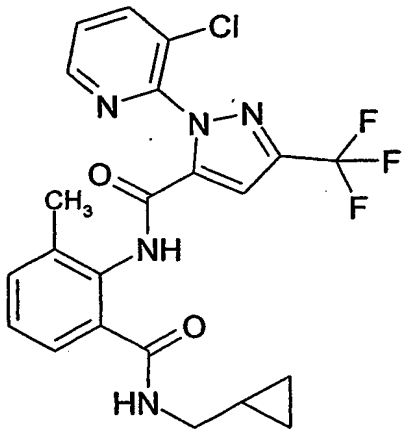
Example B8: Activity against Spodoptera littoralis

Young soya plants are sprayed with an aqueous emulsion spray mixture comprising 400 ppm of active ingredient and, after the spray coating has dried on, populated with 10 caterpillars (1st instar) of Spodoptera littoralis and introduced into a plastic container. 3 days later, the percentage reduction in the population and in the feeding damage (% activity) are

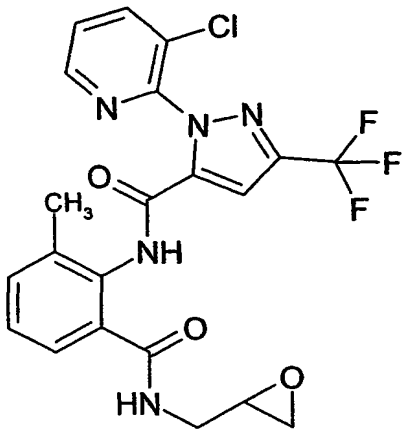
determined by comparing the number of dead caterpillars and the feeding damage between the treated and untreated plants.
In this test, compounds listed in the Tables above show good activity. In particular compounds P1, P2, P3, P6, P39, P41, P10, P63, P62, P61, P60, P64, P24, P7, P10, P67, P68, P29, P31, P25, P8, P32, P30, P9, P23, P14, P65, P66, P21, P11, P35, P34, P33, P38, P40, P69, P52, P53, P70 have an activity of over 80%.

Example B9: Activity against Cydia
Standard Cydia diet cubes (1.5 cm width) are pierced with a tooth-pick and are immersed in liquid paraffin (ca. 80°C). After the paraffin coat has hardened, an aqueous emulsion containing 400 ppm of active ingredient is applied using a De Vilbis sprayer (25 ml, 1 bar). After the spray coating has dried, the cubes are put into plastic containers which are then populated with two freshly hatched Cydia pomonella (1st instar). The containers are then closed with a plastic cap. After 14 days incubation at 26°C and 40-60% relative humidity, the survival rate of the caterpillars as well as their growth regulation is determined. In this test, compounds listed in the Tables above show good activity. In particular compounds P22, P6, P11, P65, P66, P17, P63, P62, P61, P60, P2, P3, P14, P67, P68, P15, P7, P21, P10, P24, P8, P13, P9, P23, P12 have an activity of over 80%.

Example B10: Comparison of the insecticidal activity of compounds according to the invention with the structurally most closely comparable compound from the state of the art (compound No. 566 described on page 122 of WO03/024222):



(Compound No. P41 according to this invention)



(Cpd No. 566 according to the state of the art)

B10 a: Systemic Insecticide Test for *Spodoptera littoralis* (cotton leafworm):

Four day old maize seedlings (*Zea mais*, variety Stoneville) are placed individual in vials containing 24ml water into which the chemical is diluted at the prescribed concentrations (12.5, 3 and 0.8ppm). Seedlings are allowed to grow for six days. Subsequently leaves are cut and placed in a Petri dish (5 cm diameter), inoculated with twelve to fifteen 1st instar *S. littoralis* larvae and incubated for four days in a growth chamber (25°C, 50% r.h., 18:6 L:D photo period). Number of alive insects are counted and percentage of dead calculated. Tests were conducted with one replicate. Results are shown in Table B10a:

Table B10a: Systemic Insecticide Test for *Spodoptera littoralis*

Compound:	Concentration (ppm)	Death rate (%) after 4 days
Comp. 566 (state of the art)	3	0
Comp. 566 (state of the art)	0.8	0
Comp. 566 (state of the art)	0.2	0
Comp. P41 (invention)	3	100
Comp. P41 (invention)	0.8	80
Comp. P41 (invention)	0.2	20

Table B10a shows that compound No. P41 according to the invention exerts a substantially better insecticidal action on *Spodoptera littoralis* than the compound from the state of the art. Especially at low application rates (3 and 0.8 ppm) the compound according to the invention is far superior to the compound of the state of the art. This enhanced effect was not to be expected on the basis of the structural similarity of these compounds.

B10 b: Insecticide Test for *Heliothis virescens* (tobacco budworm):

50-60 newly laid *H. virescens* eggs were placed on artificial diet in Petri dishes (5 cm diameter) and topically treated with 0.8ml solution of compounds at the following rates: 3, 0.8, 0.2, 0.05. Petri dishes are maintained at 26 ± 2°C, 50 ± 10% r.h. in a dark room and assessment conducted one week after application (two replicates/treatment). Larvae mortality and effects on larvae growth were compared to the control. Results are shown in Table B10b:

Table B10 b: Insecticide Test for *Heliothis virescens*

Compound:	Concentration (ppm)	Percent larvae mortality	Percent larvae showing growth reduction (compared to control)
Comp. 566 (state of the art)	3	0	0
Comp. 566 (state of the art)	0.8	0	0
Comp. 566 (state of the art)	0.2	0	0
Comp. 566 (state of the art)	0.05	0	0
Comp. P41 (invention)	3	0	100
Comp. P41 (invention)	0.8	0	100
Comp. P41 (invention)	0.2	0	45
Comp. P41 (invention)	0.05	0	0

Table B10b shows that compound No. P41 according to the invention exerts a substantially better insecticidal action on *Heliothis virescens* than the compound from the state of the art. Especially at low application rates (3, 0.8 and 0.2 ppm) the compound according to the

invention is far superior to the compound of the state of the art. This enhanced effect was not to be expected on the basis of the structural similarity of these compounds.

B10 c: Insecticide Test for *Plutella xylostella* (diamond back moth):

Chinese cabbage plants were sprayed with insecticide at 3, 0.8, 0.2 and 0.05ppm. Five cm diameter leaf disks were cut and placed in a Petri dish containing 6ml agar (0.8%). Five *P. xylostella* larvae L3 were introduced into Petri dishes and kept at 26 ± 2°C, 50 ± 10% r.h. in a dark room (two replicates per treatment). Number of alive insects were counted and percentage of dead calculated after three days. Results are shown in Table B10c:

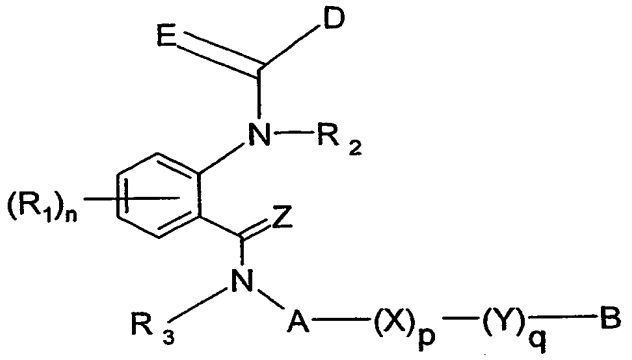
Table B10 c: Insecticide Test for *Plutella xylostella*

Compound:	Concentration (ppm)	Death rate (%) after 5 days
Comp. 566 (state of the art)	3	25
Comp. 566 (state of the art)	0.8	5
Comp. 566 (state of the art)	0.2	10
Comp. 566 (state of the art)	0.05	0
Comp. P41 (invention)	3	60
Comp. P41 (invention)	0.8	80
Comp. P41 (invention)	0.2	0
Comp. P41 (invention)	0.05	0

Table B10c shows that compound No. P41 according to the invention exerts a substantially better insecticidal action on *Plutella xylostella* than the compound from the state of the art. Especially at low application rates (3 and 0.8 ppm) the compound according to the invention is far superior to the compound of the state of the art. This enhanced effect was not to be expected on the basis of the structural similarity of these compounds.

What is claimed is:

1. A compound of formula I



(I),

wherein

each of E and Z, which may be the same or different, represents oxygen or sulfur;

A is C_1-C_6alkylene, C_2-C_6alkenylene, C_2-C_6alkynylene, or a bivalent three- to ten-membered monocyclic or fused bicyclic ring system which can be partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms;

and it being possible for the three- to ten-membered ring system itself and also for the C_1-C_6alkylene, C_2-C_6alkenylene and C_2-C_6alkynylene groups to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl, or by

a three- to ten-membered monocyclic or fused bicyclic ring system which can be aromatic, partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms, and it being possible for

the three- to ten-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl or phenyl, it being possible for the phenyl group in turn to be substituted by hydroxy, C_1-C_6alkyl, C_1-C_6haloalkyl, C_1-C_6alkylthio, C_1-C_6haloalkylthio, C_3-C_6alkenylthio, C_3-C_6haloalkenylthio, C_3-C_6alkynylthio, C_1-C_3alkoxy-C_1-C_3alkylthio, C_2-C_4alkylcarbonyl-C_1-C_3alkylthio, C_2-C_4alkoxycarbonyl-C_1-C_3alkylthio, cyano-C_1-C_3alkylthio, C_1-C_6alkylsulfinyl, C_1-C_6haloalkylsulfinyl, C_1-C_6alkylsulfonyl, C_1-C_6haloalkylsulfonyl, aminosulfonyl, C_1-C_2alkylaminosulfonyl, N,N-di(C_1-C_2alkyl)aminosulfonyl, di(C_1-C_4alkyl)amino, halogen, cyano or nitro; and substituents at nitrogen atoms in the ring systems being other than halogen;
X is oxygen, NH or C_1-C_4alkyl-N;
Y is C_1-C_6alkylene, C_2-C_6alkenylene, C_2-C_6alkynylene, or a bivalent three- to ten-membered monocyclic or fused bicyclic ring system which can be partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms;
and it being possible for the three- to ten-membered ring system itself and also for the C_1-C_6alkylene, C_2-C_6alkenylene and C_2-C_6alkynylene groups to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl, or by a three- to ten-membered monocyclic or fused bicyclic ring system which can be aromatic, partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms, and it

being possible for the three- to ten-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl or phenyl, it being possible for the phenyl group in turn to be substituted by hydroxy, C_1-C_6alkyl, C_1-C_6haloalkyl, C_1-C_6alkylthio, C_1-C_6haloalkylthio, C_3-C_6alkenylthio, C_3-C_6haloalkenylthio, C_3-C_6alkynylthio, C_1-C_3alkoxy-C_1-C_3alkylthio, C_2-C_4alkylcarbonyl-C_1-C_3alkylthio, C_2-C_4alkoxycarbonyl-C_1-C_3alkylthio, cyano-C_1-C_3alkylthio, C_1-C_6alkylsulfinyl, C_1-C_6haloalkylsulfinyl, C_1-C_6alkylsulfonyl, C_1-C_6haloalkylsulfonyl, aminosulfonyl, C_1-C_2alkylaminosulfonyl, N,N-di(C_1-C_2alkyl)aminosulfonyl, di(C_1-C_4alkyl)amino, halogen, cyano or nitro; and substituents at nitrogen atoms in the ring systems being other than halogen;

p is 0 or 1;

q is 0 or 1;

B is a three- to four-membered ring system which is fully or partially saturated and can contain a hetero atom selected from the group consisting of nitrogen, oxygen and sulfur, and it being possible for the three- to four-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl, or by a three- to ten-membered monocyclic or fused bicyclic ring system which can be aromatic, partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms, and it being possible for the three- to ten-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-

C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl or phenyl, it being possible for the phenyl group in turn to be substituted by hydroxy, C_1-C_6alkyl, C_1-C_6haloalkyl,C_1-C_6alkylthio, C_1-C_6haloalkylthio, C_3-C_6alkenylthio, C_3-C_6haloalkenylthio, C_3-C_6alkynylthio, C_1-C_3alkoxy-C_1-C_3alkylthio, C_2-C_4alkylcarbonyl-C_1-C_3alkylthio, C_2-C_4alkoxycarbonyl-C_1-C_3alkylthio, cyano-C_1-C_3alkylthio, C_1-C_6alkylsulfinyl, C_1-C_6haloalkylsulfinyl, C_1-C_6alkylsulfonyl, C_1-C_6haloalkylsulfonyl, aminosulfonyl, C_1-C_2alkylaminosulfonyl, N,N-di(C_1-C_2alkyl)aminosulfonyl, di(C_1-C_4alkyl)amino, halogen, cyano or nitro; and substituents at nitrogen atoms in the ring systems being other than halogen;

each R_1 independently is halogen, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4haloalkylsulfinyl, C_1-C_4haloalkylsulfonyl, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl, phenyl, benzyl or phenoxy, or phenyl, benzyl or phenoxy mono-, di- or trisubstituted by halogen, cyano, nitro, halogen, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl;

or each R_1 independently is amino, formyl, C_2-C_6cyanoalkenyl, C_2-C_6alkylcarbonylamino, phenylcarbonylamino which can be mono-, di- or trisubstituted by halogen, cyano, nitro, halogen, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-

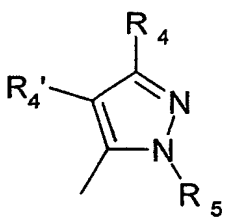
C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl; or each R_1 independently is 2-,3- or 4-pyridylcarbonylamino which can be mono-, di- or trisubstituted by halogen, cyano, nitro, halogen, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl; or each R_1 independently is C_2-C_6alkoxycarbonylamino, C_2-C_6alkylaminocarbonylamino, C_3-C_6dialkylaminocarbonylamino, C_2-C_6haloalkylcarbonyl or is a group $R_xON=C(R_y)$-, wherein R_x and R_y independently are hydrogen or C_1-C_6alkyl;

n is 0, 1, 2, 3 or 4;

each of R_2 and R_3, which may be the same or different, represents hydrogen, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl or C_3-C_8cycloalkyl; or C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl or C_3-C_8cycloalkyl substituted by one or more substituents selected from halogen nitro, cyano, hydroxy, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino or C_1-C_6alkyl-C_3-C_6cycloalkylamino;

D is phenyl, 2-pyridyl, 3-pyridyl or 4-pyridyl; or phenyl, 2-pyridyl, 3-pyridyl or 4-pyridyl mono-, di- or trisubstituted by C_1-C_6alkyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, halogen, cyano, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4haloalkylsulfinyl or C_1-C_4haloalkylsulfonyl; or

D is a group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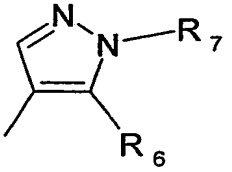
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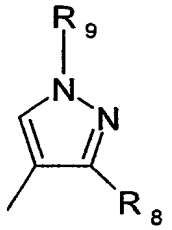
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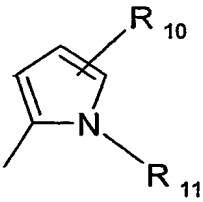
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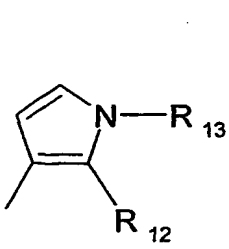
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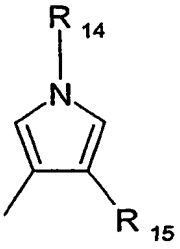
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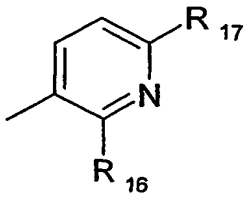
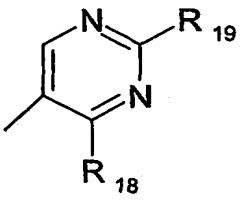

(D7) or

(D8),

R_4, R_4', R_{10}, R_{17}, and R_{19} independently from each other, are hydrogen, C_1-C_6alkyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, halogen, cyano, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_2-C_4alkoxycarbonyl, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4haloalkylsulfinyl or C_1-C_4haloalkylsulfonyl;

R_5, R_6, R_8, R_{11}, R_{12}, R_{15}, R_{16} and R_{18} independently from each other, are C_1-C_6alkyl or C_1-C_6alkyl mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_4alkoxy, C_2-C_4alkoxycarbonyl, C_1-C_4alkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino or C_3-C_6cycloalkylamino; or are phenyl, 2-pyridyl, 3-pyridyl, 4-pyridyl; or are phenyl, 2-pyridyl, 3-pyridyl or 4-pyridyl mono-, di- or trisubstituted by C_1-C_6alkyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, halogen, cyano, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4haloalkylsulfinyl or C_1-C_4haloalkylsulfonyl;

R_7, R_9, R_{13} and R_{14} independently from each other, are hydrogen, C_1-C_6alkyl, C_1-C_6haloalkyl, C_2-C_6alkenyl, C_2-C_6haloalkenyl, C_3-C_6alkenyl or C_3-C_6haloalkenyl; and agronomically acceptable salts/isomers/enantiomers/tautomers/N-oxides of those compounds with the exception of the compound 2-(3-chloro-pyridin-2-yl)-5-trifluoromethyl-2H-pyrazole-3-carboxylic acid [2-methyl-6-(oxiranylmethyl-carbamoyl)-phenyl]-amide.

2. A compound according to claim 1, wherein R_4' is hydrogen and each R_1 independently is halogen, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4haloalkylsulfinyl, C_1-C_4haloalkylsulfonyl, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl, phenyl, benzyl or phenoxy, or phenyl, benzyl or phenoxy mono-, di- or trisubstituted by halogen, cyano, nitro, halogen, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_1-

C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy or C_3-C_6trialkylsilyl;

3. A compound according to claim 1, wherein

B is a three- to four-membered ring system which is fully or partially saturated, and it being possible for the three- to four-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl, or by a three- to ten-membered monocyclic or fused bicyclic ring system which can be aromatic, partially saturated or fully saturated and can contain 1 to 4 hetero atoms selected from the group consisting of nitrogen, oxygen and sulfur, it not being possible for each ring system to contain more than 2 oxygen atoms and more than 2 sulfur atoms, and it being possible for the three- to ten-membered ring system itself to be mono-, di- or trisubstituted by halogen, cyano, nitro, hydroxy, C_1-C_6alkyl, C_2-C_6alkenyl, C_2-C_6alkynyl, C_3-C_6cycloalkyl, C_5-C_7cycloalkenyl, C_5-C_8cycloalkynyl, C_1-C_6haloalkyl, C_2-C_6haloalkenyl, C_2-C_6haloalkynyl, C_3-C_6halocycloalkyl, C_5-C_7halocycloalkenyl, C_5-C_8halocycloalkynyl, C_1-C_4alkoxy, C_1-C_4haloalkoxy, C_1-C_4alkylthio, C_1-C_4haloalkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4alkylamino, C_2-C_4dialkylamino, C_3-C_6cycloalkylamino, C_1-C_6alkyl-C_3-C_6cycloalkylamino, C_2-C_4alkylcarbonyl, C_2-C_6alkoxycarbonyl, C_2-C_6alkylaminocarbonyl, C_3-C_6dialkylaminocarbonyl, C_2-C_6alkoxycarbonyloxy, C_2-C_6alkylaminocarbonyloxy, C_3-C_6dialkylaminocarbonyloxy, C_3-C_6trialkylsilyl or phenyl, it being possible for the phenyl group in turn to be substituted by hydroxy, C_1-C_6alkyl, C_1-C_6haloalkyl,C_1-C_6alkylthio, C_1-C_6haloalkylthio, C_3-C_6alkenylthio, C_3-C_6haloalkenylthio, C_3-C_6alkynylthio, C_1-C_3alkoxy-C_1-C_3alkylthio, C_2-C_4alkylcarbonyl-C_1-C_3alkylthio, C_2-C_4alkoxycarbonyl-C_1-C_3alkylthio, cyano-C_1-C_3alkylthio, C_1-C_6alkylsulfinyl, C_1-C_6haloalkylsulfinyl, C_1-C_6alkylsulfonyl, C_1-C_6haloalkylsulfonyl, aminosulfonyl, C_1-C_2alkylaminosulfonyl, N,N-di(C_1-C_2alkyl)aminosulfonyl,

di(C_1-C_4alkyl)amino, halogen, cyano or nitro; and substituents at nitrogen atoms in the ring systems being other than halogen.

4. A compound according to claim 1, wherein A is C_1-C_6alkylene which may be substituted by C_3-C_6cycloalkyl, C_2-C_6alkenyl, cyano, C_1-C_4alkylthio, C_1-C_4alkylsulfonyl, C_1-C_4alkoxy, halogen or C_1-C_6haloalkyl; or A is C_3-C_6cycloalkylene.

5. A compound according to claim 1, wherein B is cyclopropyl or cyclobutyl which may be mono- di-, or trisubstituted by halogen, C_1-C_4alkyl, hydroxy, cyano, C_1-C_4alkoxy or C_1-C_4alkylthio.

6. A compound according to claim 1, wherein D is the group D_1.

7. A pesticidal composition, which comprises at least one compound according to claim 1 of formula I or, where appropriate, a tautomer thereof, in each case in free form or in agrochemically utilizable salt form, as active ingredient and at least one auxiliary.

8. A composition according to claim 7 for controlling insects or representatives of the order Acarina.

9. A method for controlling pests, which comprises applying a composition according to claim 6 to the pests or their environment.

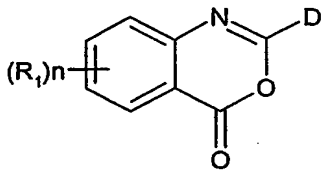
10. A method according to claim 9 for controlling insects or representatives of the order Acarina.

11. A method according to claim 9 for the protection of plant propagation material from the attack by pests, which comprises treating the propagation material or the site, where the propagation material is planted.

12. Plant propagation material treated in accordance with the method described in claim 11.

13. A process for the preparation of a compound of formula I according to claim 1 or, where appropriate, a tautomer thereof, in each case in free form or in salt form, which comprises

a) for the preparation of a compound of formula I, in which R_2 is hydrogen and E and Z are oxygen, or, where appropriate, a tautomer and/or salt thereof,
reacting a compound of formula II



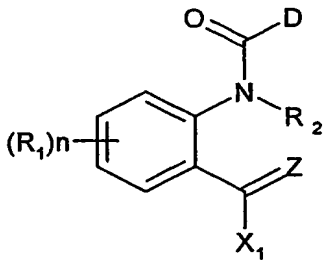
(II),

in which R_1, n, and D have the meanings given for formula I in claim 1, or, where appropriate, a tautomer and/or salt thereof with a compound of formula III

$$HN(R_3)\text{-}A\text{-}(X)_p\text{-}(Y)_q\text{-}B \qquad (III),$$

in which R_3, A, X, Y, p, q and B have the meanings given for formula I, or, where appropriate, with a tautomer and/or salt thereof or,

b) for the preparation of a compound of formula I, or, where appropriate, a tautomer and/or salt thereof,
reacting a compound of formula IV



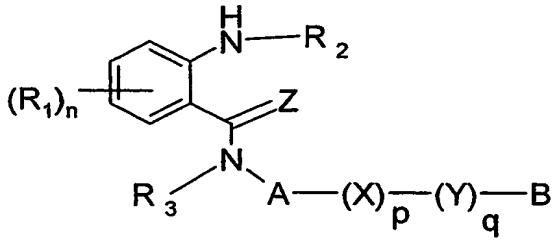
(IV),

in which R_1, R_2, n, Z and D have the meanings given for the formula I in claim 1; and X_1 is a leaving group,or, where appropriate, a tautomer and/or salt thereof with a compound of formula III

$$HN(R_3)\text{-}A\text{-}(X)_p\text{-}(Y)_q\text{-}B \qquad (III),$$

in which R_3, A, X, Y, p, q and B have the meanings given for formula I, or, where appropriate, with a tautomer and/or salt thereof or,

c) for the preparation of a compound of formula I, or, where appropriate, a tautomer and/or salt thereof,
reacting a compound of formula V



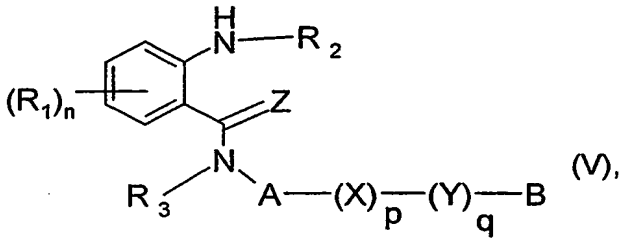
(V),

in which R_1, R_2, R_3, n, A, X, Y, Z and B have the meanings given for the formula I in claim 1, or, where appropriate, a tautomer and/or salt thereof with a compound of formula VI

$$X_2C(=O)D \qquad (VI),$$

in which D has the meaning given for formula I in claim 1; and X_2 is a leaving group, or, where appropriate, with a tautomer and/or salt thereof.

14. A compound of formula V



(V),

wherein R_1, R_2, R_3, n, A, X, Y, Z and B have the meanings given for formula I in claim 1.

15. A compound according to claim 14, wherein

R_1 is C_1-C_4alkyl, halogen, C_1-C_5haloalkyl, nitro, C_1-C_4alkoxy, C_1-C_4-haloalkoxy, C_1-C_4alkylthio, C_1-C_4alkylsulfinyl, C_1-C_4alkylsulfonyl, C_1-C_4haloalkylthio, C_1-C_4haloalkylsulfinyl or C_1-C_4haloalkylsulfonyl;
R_2 and R_3 are hydrogen;
A is C_1-C_6alkylene which may be substituted by C_3-C_6cycloalkyl, C_2-C_6alkenyl, cyano, C_1-C_4alkylthio, C_1-C_4alkylsulfonyl, C_1-C_4alkoxy, halogen or C_1-C_6haloalkyl; or A is C_3-C_6cycloalkylene;
p and q are, independently from each other, 0 or 1;
X is oxygen, NH; NCH_3 or NC_2H_5;
Y is C_1-C_4alkylene, C_2-C_6alkenylene or C_3-C_6alkinylene or, C_1-C_4alkylene, C_2-C_6alkenylene or C_3-C_6alkinylene substituted by halogen, C_3-C_6cycloalkyl, C_1-C_4alkylsulfonyl or C_1-C_4alkoxy;
B is cyclopropyl or cyclobutyl which may be mono- di-, or trisubstituted by halogen, C_1-C_4alkyl, hydroxy, cyano, C_1-C_4alkoxy or C_1-C_4alkylthio; or B is $CH(CH_2O)$, $CH(CHMeO)$, $CH(CMe_2O)$, $CH(CH_2S)$, $CH(CH_2OCH_2)$, $CH(CHMeOCH_2)$, $CH(CMe_2OCH_2)$, $CH(CH_2S\text{-}(O)_2CH_2)$, $CH(CHMeS(O)_2CH_2)$, $CH(CMe_2S(O)_2CH_2)$, $C(Me)\text{-}(CH_2O)$, $C(Me)(CHMeO)$, $C(Me)\text{-}(CMe_2O)$, $C(Me)\text{-}(CH_2S)$, $C(Me)\text{-}(CH_2OCH_2)$, $C(Me)(CHMeOCH_2)$, $C(Me)\text{-}(CMe_2OCH_2)$, $C(Me)\text{-}(CH_2S(O)_2CH_2)$, $C(Me)\text{-}(CHMe\text{-}S(O)_2CH_2)$ or $C(Me)\text{-}(CMe_2\text{-}S(O)_2CH_2)$.

16. A compound according to claim 15, wherein
B is cyclopropyl or cyclobutyl which may be mono- di-, or trisubstituted by halogen, C_1-C_4alkyl, hydroxy, cyano, C_1-C_4alkoxy or C_1-C_4alkylthio.

17. A compound of formula III

$$HN(R_3)\text{-}A\text{-}(X)_p\text{-}(Y)_q\text{-}B \qquad (III),$$

in which R_3, A, X, Y, p, q and B have the meanings given for formula I in claim 1.

18. A compound according to claim 17, wherein
R_3 is hydrogen;
A is C_1-C_6alkylene which may be substituted by C_3-C_6cycloalkyl, C_2-C_6alkenyl, cyano, C_1-C_4alkylthio, C_1-C_4alkylsulfonyl, C_1-C_4alkoxy, halogen or C_1-C_6haloalkyl; or A is C_3-C_6cycloalkylene;
p and q are, independently from each other, 0 or 1;

X is oxygen, NH; NCH_3 or NC_2H_5;
Y is C_1-C_4alkylene, C_2-C_6alkenylene or C_3-C_6alkinylene or, C_1-C_4alkylene, C_2-C_6alkenylene or C_3-C_6alkinylene substituted by halogen, C_3-C_6cycloalkyl, C_1-C_4alkylsulfonyl or C_1-C_4alkoxy;
B is cyclopropyl or cyclobutyl which may be mono- di-, or trisubstituted by halogen, C_1-C_4alkyl, hydroxy, cyano, C_1-C_4alkoxy or C_1-C_4alkylthio; or B is $CH(CH_2O)$, $CH(CHMeO)$, $CH-(CMe_2O)$, $CH(CH_2S)$, $CH(CH_2OCH_2)$, $CH(CHMeOCH_2)$, $CH(CMe_2OCH_2)$, $CH(CH_2S-(O)_2CH_2)$, $CH(CHMeS(O)_2CH_2)$, $CH(CMe_2S(O)_2CH_2)$, $C(Me)-(CH_2O)$, $C(Me)(CHMeO)$, $C(Me)-(CMe_2O)$, $C(Me)-(CH_2S)$, $C(Me)-(CH_2OCH_2)$, $C(Me)(CHMeOCH_2)$, $C(Me)-(CMe_2OCH_2)$, $C(Me)-(CH_2S(O)_2CH_2)$, $C(Me)-(CHMe-S(O)_2CH_2)$ or $C(Me)-(CMe_2-S(O)_2CH_2)$.

19. A compound according to claim 18, wherein
B is cyclopropyl or cyclobutyl which may be mono- di-, or trisubstituted by halogen, C_1-C_4alkyl, hydroxy, cyano, C_1-C_4alkoxy or C_1-C_4alkylthio.